



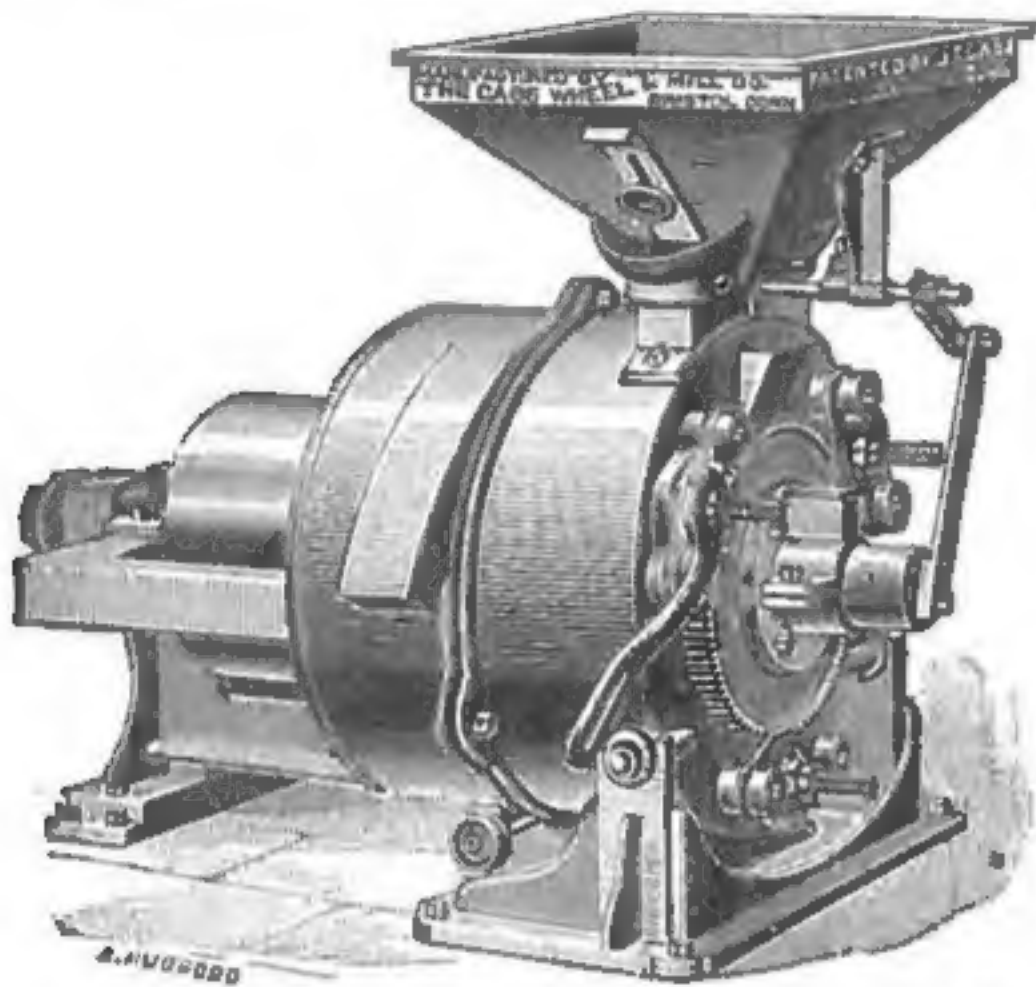
CHRONICLE OF THE GRAIN AND FLOUR TRADE

PUBLISHED EVERY MONDAY MORNING.

VOL. XXI. No. 22.

BUFFALO, N. Y., JANUARY 27, 1890.

\$1.50 PER YEAR.



## VICTORY OVER ALL OTHERS. SINGLE & DOUBLE VERTICAL GRINDING MILLS. (J. T. CASE'S PATENT.)

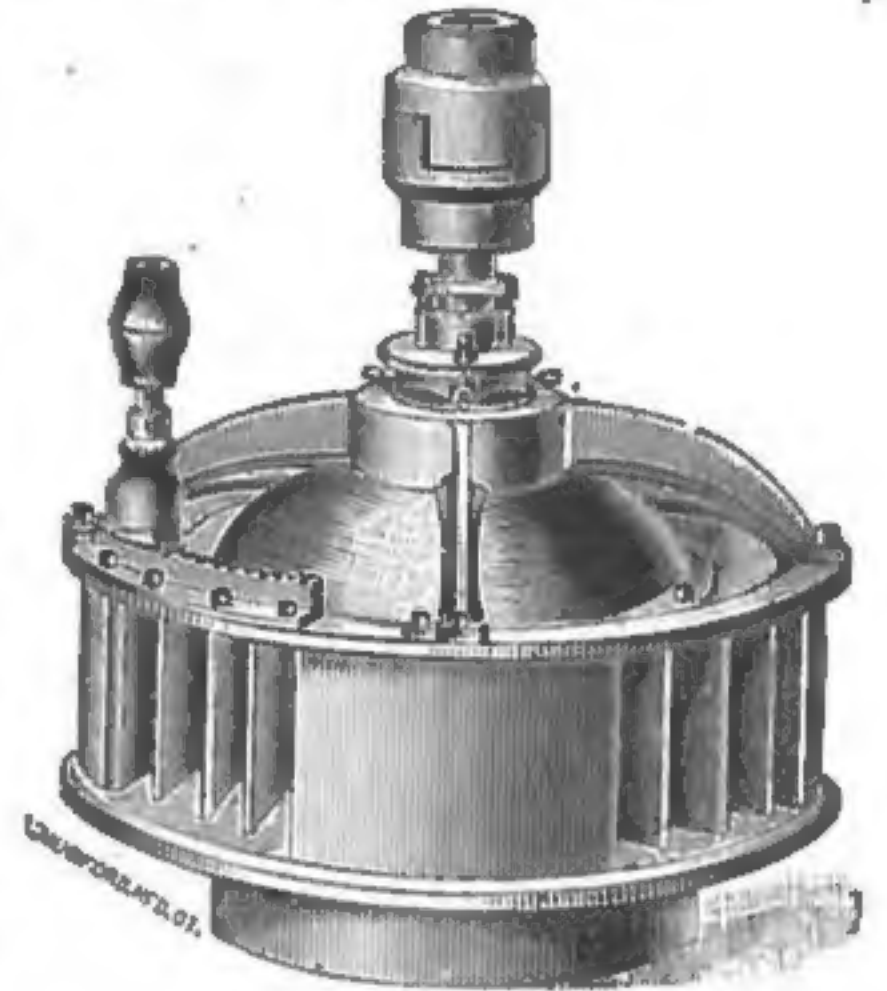
FACTS ARE MIGHTIER THAN ASSERTIONS. READ WHAT THEY SAY:

"Our 20-inch mill made by the Case Wheel & Mill Co. is in every respect satisfactory, easy to handle, and best results obtained of any mill in the country, with same quantity coal and power."—A. S. RUSSELL & Co., Meriden, Conn.  
"Superior to any mill in use."—Geo. WESTON, Bristol, Conn.  
"The best satisfaction in quantity and quality."—CHILD'S ELEVATOR, Manchester, Ct.  
"We take pleasure in recommending it."—GARLAND, LINCOLN & Co., Worcester, Mass.

SEND FOR CATALOGUE—ILLUSTRATED AND DESCRIPTIVE.

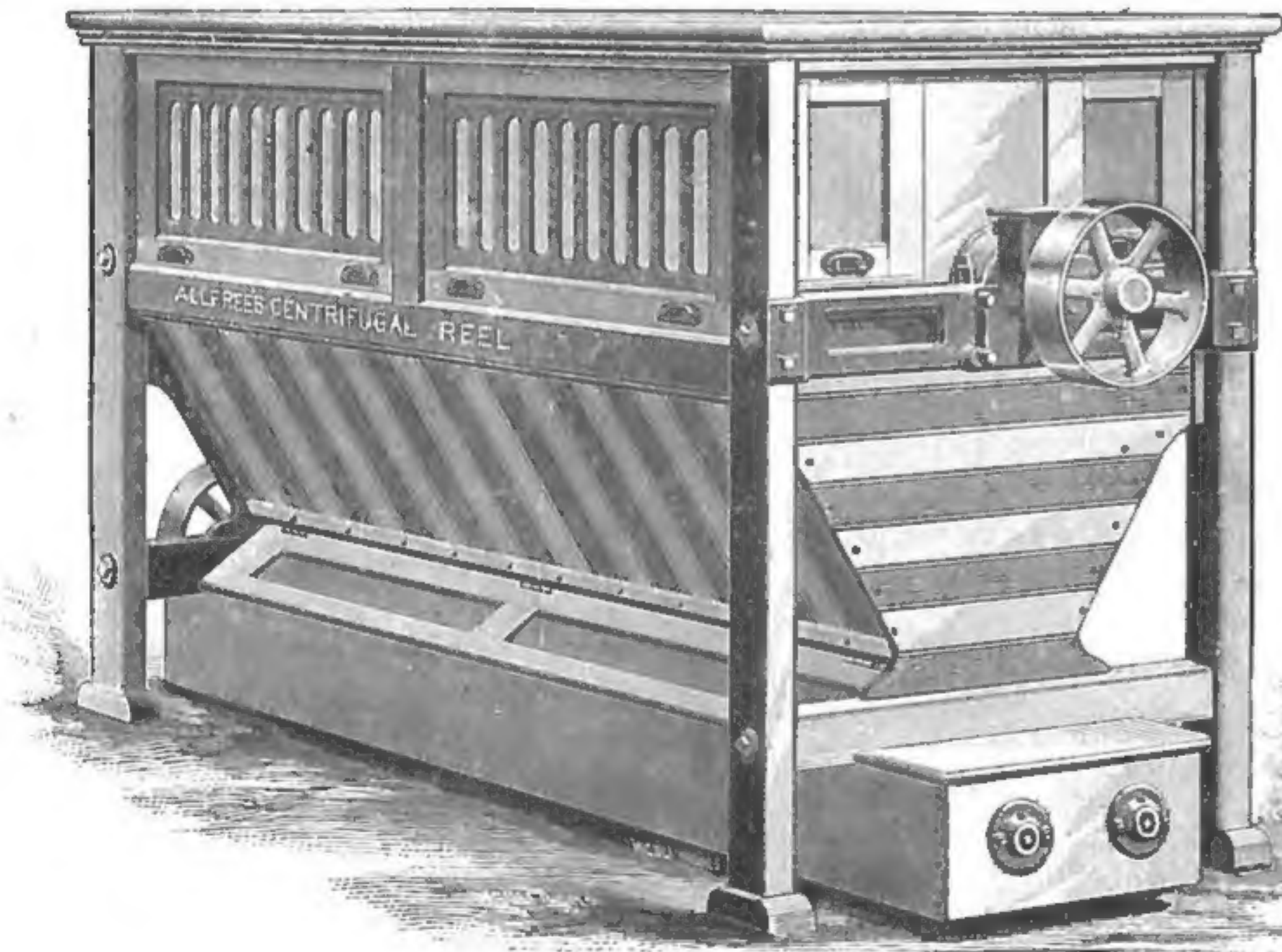
## The Improved National Turbine Water Wheel

The Best for Economy; The Best for Durability; The Best for Power. ONE THOUSAND FIVE HUNDRED NATIONAL WATER WHEELS IN USE Prove that our Assertions are Supported by the Leading Manufacturers in the Country. Send for illustrated catalogue and prices to the manufacturers.

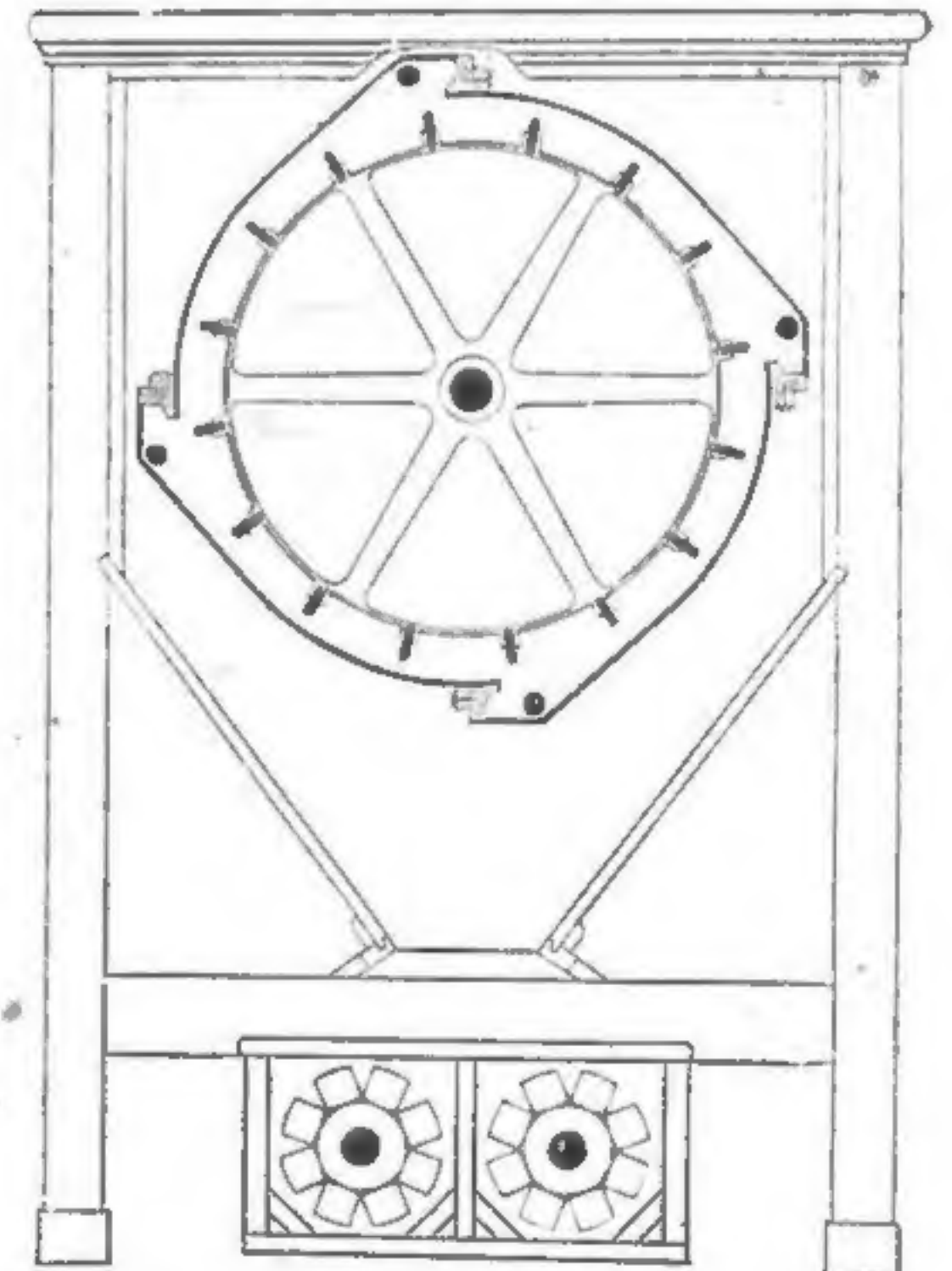


The Case Wheel & Mill Co., Bristol, Conn.

# THE "ALLFREE" CENTRIFUGAL REEL



"A PAYING INVESTMENT  
TO ANY MILL  
ADOPTING  
IT."



THE J. B. ALLFREE CO., INDIANAPOLIS, IND.

SHELBYVILLE, IND., DEC. 16, 1889.

GENTLEMEN: Replying to your favor of the 9th inst., asking how I am suited with the Centrifugal put in the "Brandywine Mills" last June, will say that it is a happy surprise. IT DOES MORE THAN YOU CLAIMED FOR IT to my entire satisfaction (remember you induced me to use a No. 2 instead of a No. 1 in my fifty-barrel mill). Judging from the amount of stock it can handle, would think a No. ½ would be large enough for my mill. IT MAY BE EQUALED BUT NEVER SURPASSED AS A PERFECT AND LIGHT RUNNING MACHINE. I can heartily recommend your Centrifugal, and am satisfied that it will prove a PAYING INVESTMENT TO ANY MILL ADOPTING IT. Wishing you the best of success, I remain, respectfully,

JOSHUA HERING.

ADDRESS FOR CATALOGUE AND PRICES

## THE J. B. ALLFREE CO.

MILL BUILDERS & GENERAL MILL FURNISHERS.

76 TO 86 SHELBY ST., INDIANAPOLIS, IND.



# CASE.

CASE MFG. CO., COLUMBUS, O.  
GENTLEMEN: If we were to build a hundred mills we  
would not permit any other than the "CASE" roll to  
enter them. They are the best roll on earth.  
Yours truly,  
W. C. MANSFIELD & CO.  
CLEVELAND, TENN., AUG. 29, 1889.  
W. C. MANSFIELD & CO.,  
MERCHANT MILLERS,

# CASE.





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THE proposed new "constitution" of the Millers' National Association ought to contain some clauses which it will not contain. These are: 1. The present association is hereby declared to be abolished. 2 A new association shall be formed. 3. All millers shall be invited to join, no discrimination being made between 10-barrel and 10,000 barrel millers, between long-system and short-system millers, between buhr millers and roller millers, between steam-power millers and water-power millers, between spring-wheat millers and winter-wheat millers, between eastern and northern millers and southern and western millers. 4. The conventions shall not be devoted exclusively to matters that concern only 50 millers out of the 20,000 millers of the United states. 5. Real millers shall not be crowded to the rear by grain gamblers, crop-prophets, speculators and exporters. 6. The techinics of milling shall be fairly presented at the annual meetings. 7. The millionaire members shall, courteously and in accordance with the laws of good-breeding, refrain from asserting that the association does not care a tinker's dam for millers who grind less than 200 barrels a day. 8. Thereshall be a new deal all around, leaving out the malicious marplots who have destroyed the influence of the old association. These and similar laws might result in starting an association that would be "national" in other respects than nomenclature. But, land sakes! What's the good of proposing good laws? The association managers do not care for a real "national" association!

DECEMBER breadstuff exportations showed the clouds lifting slowly from the wheat horizon. During that month the wheat exports were 6,096,105 bushels, worth \$4,936,851, against 3,988,559 bushels, worth \$3,740,167 in December, 1888, and for the last six months of 1889 the total was 28,365,393 bushels, worth \$23,607,882, against 28 946,295 bushels, worth \$26,540,824 for the last six months of 1888. The wheat flour exports of December, 1889 were 1,222,603 barrels, worth \$5,763,751, against 704,388 barrels, worth \$3,571,584 for December 1888. For the last six months of 1888 the total was 5,927,137 barrels, worth \$28,084,899, against 4,880,150 barrels, worth \$23,430,131 in the last six months of 1888. The value of wheat grain and flour exported in December, 1889 was \$10,700,602, against \$7,311,751 in December, 1888. For the last six months of 1889 the value of wheat grain and flour exported was \$51,692,781, against \$49,970,955 in 1888, and this increase is made in the face of largely decreased prices for both grain and flour. Among the minor lines the December exports showed barley worth \$26,771, against \$115,752 a year ago; corn \$2,775,689, against \$2,639,450; corn-meal \$76,575, against \$98,401; oats \$298,707, against \$34,892; oatmeal \$68,889, against \$28,882; rye \$120,086, against \$13,650. The total breadstuff exports of December, 1889, were \$14,067,319, against \$10,242,778 in 1888; for the last six months of 1889 the total was \$68,649,343, against \$62,981,476 in 1888; for the year 1889 the grand total was \$125,879,052, against \$113,473,422 in 1888. In addition to these grain totals mention should be made of beef, hog and dairy products exported, into which grain enters largely. The total export of beef, hog and dairy products for December, 1889, were \$11,842,819, against \$9,869,702 in 1888. The total for the year 1889 was

\$117,119,123, against \$87,051,137 in 1888. The breadstuffs and beef, hog and dairy products exported during 1889 brought \$242,998,175, against \$200,534 559 for 1888, a gain of \$42,463,616, notwithstanding the fact that the bad crops of 1888 materially shortened the quality of all breadstuffs, and the low prices of 1889 materially shortened the value of exports. The situation at the opening of 1890 appears to imply that the exports in these lines will materially increase over the figures of 1888 and 1889.

THE Minneapolis "Yahoo" has a new job on hand. Having got into a muss, that would be particularly disagreeable to clean and decent men, over its attack on the Richmond flour market, it now proposes to ask or force the various millers' associations to "endorse" its unfair action in that matter. It succeeded in getting an endorsement by the Michigan Millers' State Association at the recent meeting of that body in Lansing, and we shall expect to see it attempt to draw similar endorsements from the other organizations whose "official organ" it pretends to be. The associations may well pause before going to the support of the "Yahoo" in this matter. It has been asked to give some proof that its attack on Richmond is not a malicious fabrication, and it has refused to do so. The inference seems to be that it has no proof to give. Now, can the millers' associations of the Northern States afford to take up the quarrel of the "Yahoo"? Already that unprincipled sheet has forced its friends in the national association to stultify themselves and the association by assuming its quarrel in the bogus resolution case. That action has cost the association more than its managers can accurately estimate, in estranging respectable men already in the association, and in preventing respectable men on the outside from going into that body. Now, if the northern associations claiming the "Yahoo" as their recognized and responsible "official organ" join in the attack on a southern market, there will be a further loss to the association through the malign influence of the wild "Yahoo." Southern millers and dealers are not the men to stand by and see a southern market vilified by malicious scribblers, who will give no proof of the rascality which they allege to exist in that market. The most potent single influence in checking the growth and causing the decay of the Millers' National Association has been the conglomeration of malice, partisanship, greed, meanness, puerility and general damphoolishness which, originating with the Minneapolis "Yahoo," has through the supporters of that sheet been allowed full swing in the control and toning of the association. Every endorsement of the "Yahoo's" attack on Richmond, so long as mere assertion without proof is given, will be another nail in the already sufficiently nailed coffin of the national association, to which the endorsing associations belong. Next year the "Yahoo" will probably ask the national association to "endorse" its unproved attack on Richmond. Should there happen to be present one or more southern members, possessing the average southern feeling, there may be a fine flight of fur, and the puerile mismanagers of that body may get their eyes opened to the folly of following a few furious fools out of the legitimate path of the national association.



# Dawson's Roller Mill

Is acknowledged to be the very best in the market. It has our Patent Automatic Centrifugal feeder, never failing to feed the stock the full length of rolls in an even sheet. It is the Latest and Best feed out, uses less power and is simple in construction. It can be placed on any style of machine with little expense. We use for roll bearings phosphor-bronze metal which will admit rolls being run at any speed without heating and with little friction, and uses little oil. We use the Dawson Corrugation, which is admitted the best in long or short system mills as the action is granulating rather than CUTTING.

*We have a large plant to Re-grind and Re-Corrugate Rolls.*

Owing to our late increased facilities and central location we are enabled to ship goods promptly on the shortest notice.

PARTIES CONTEMPLATING REMODELING THEIR MILLS OR BUYING ANY ROLLER MACHINES ARE REQUESTED TO PUT THEMSELVES IN CORRESPONDENCE WITH US.

FOR PRICE LISTS AND CIRCULARS, ADDRESS,

## Dawson Roll Works, Harrisburg, Pa.

## The Cowles "Reliable" Sectional Wood Pulley

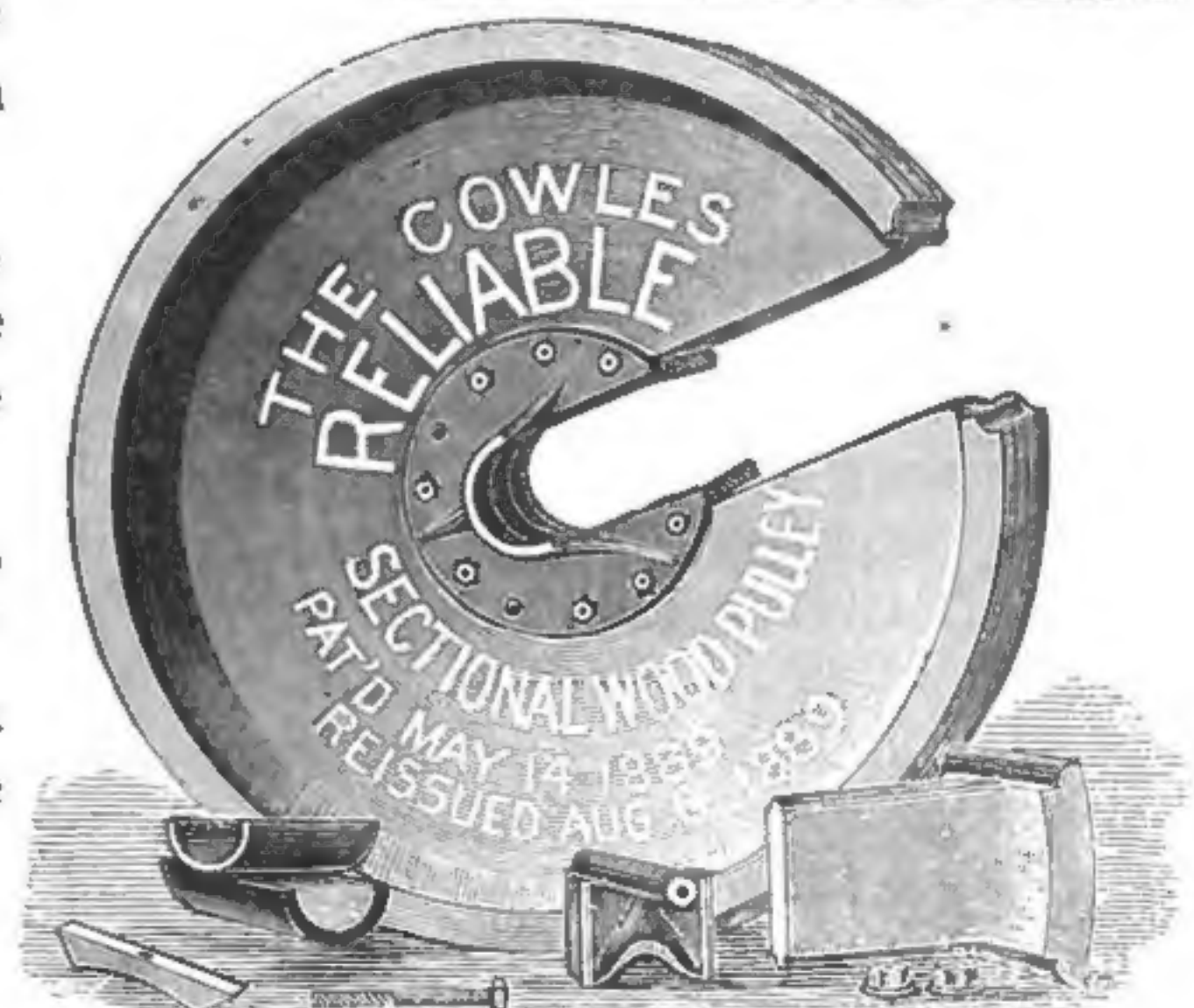
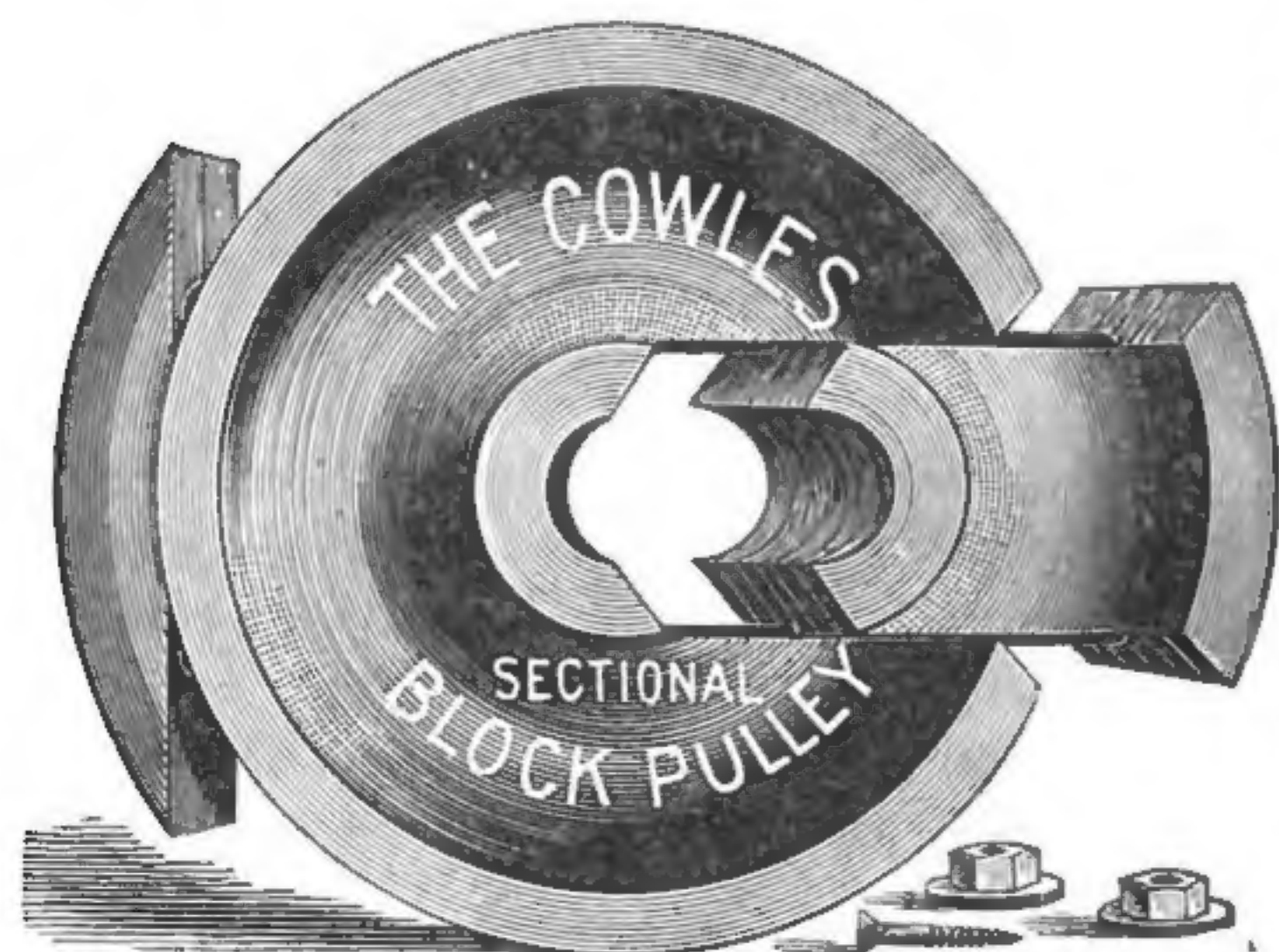


Web made of several layers glued together with grain crossing, and faced up on both sides. Iron flanges securely bolted to web. Rim put on after web has been trued up. Web and rim turned on inside and face, making perfect running pulley. Rim supported entire circumference. Positive self-gripping device for securing pulley to shafting, which is self-centering, and can not slip with wear.

A wooden rim pulley transmits from 30 to 50 per cent. more power with same belt than an iron one.

Two-thirds lighter than iron, bearings will wear longer and the expense for lubricant will be less.

Having solid web, there is no air resistance. The "Reliable" can be placed on shaft or position changed in one-fourth the time required with any other pulley.



**EDWARD GERMAIN, SOLE MANUFACTURER SAGINAW, MICH., U.S.A.**





PUBLISHED EVERY MONDAY. OFFICES: { Corner Pearl and Seneca Streets,  
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McFAUL & NOLAN, - - - PROPRIETORS.  
THOMAS MCFAUL. JAMES NOLAN.

#### SUBSCRIPTION.

In the United States and Canada, postage prepaid, \$1.50 Per Year, in advance; remit by Postal Order, Registered Letter, or New York Exchange. Currency in un-registered letter at sender's risk.

To all Foreign Countries embraced in the General Postal Union, \$2.25 Per Year, in advance.

Subscribers can have the mailing address of their paper changed as often as they desire. Send both old and new addresses. Those who fail to receive their papers promptly will please notify at once.

#### ADVERTISING.

Rates for ordinary advertising made known on application.

Advertisements of Mills for Sale or to Rent; Partners, Help or Situation Wanted, or of a similar character One cent per word each insertion, or where four consecutive insertions are ordered at once, the charge will be Three cents per word. No advertisement taken for less than 25 cents. Cash must accompany all orders for advertisements of this class.

Orders for new advertisements should reach this office on Friday morning to insure immediate insertion. Changes for current advertisements should be sent so as to reach this office on Saturday morning.

#### EDITOR'S ANNOUNCEMENTS.

Correspondence is invited from millers and millwrights on any subject pertaining to any branch of milling or the grain and flour trade.

Correspondents must give their full name and address, not necessarily for publication, but as a guarantee of good faith.

This paper has no connection with a millfurnishing house and aims to represent the trade without prejudice, fear or favor.

Address all communications

**THE MILLING WORLD,**  
BUFFALO, N. Y.

Entered at the Post Office, at Buffalo, N. Y., as mail matter of second-class.

#### SITUATIONS WANTED.

Advertisements under this head, 25 cents each insertion for 25 words, and 1 cent for each additional word. Cash with order. Four consecutive insertions will be given for the price of three.

#### WANTED.

A situation in some flouring or grist mill, by a man who has had good experience with the buhr system. Can furnish best of references. Address, THOMAS H. NICHOLAS, DeRuyter, N. Y. 2225

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Advertisements of Mills for Sale or Rent, Partners Wanted, Machines for Sale or Exchange, etc., etc., cost 1 cent per word, for one insertion, or 3 cents per word for four insertions. No order taken for less than 25 cents for one insertion, or 50 cents for four insertions. Cash must accompany the order. When replies are ordered sent care of this office 10 cents must be added to pay postage.

#### FOR SALE.

Merchant and grist mill. The best water-power in Ohio. Situated five miles from Mentor, Ohio. For particulars enquire of C. S. JOHNSON, West Mentor, O. 1216

#### FOR SALE.

Mill property in Central New York, for much less than it is really worth, with small payment down, or would take a partner with small capital to take charge of and run the mill. Address "B," care of THE MILLING WORLD, Buffalo, N. Y. 2024

#### FOR SALE.

Several good second-hand and new turbines of various styles. Second-hand price list and descriptive matter and prices of our new machines sent free. Every one interested in the shortest route to successful milling on rolls or in grinding corn and feed with the least expense of power, should address us before buying.

8tf FLENNIKEN TURBINE CO.,  
Dubuque, Iowa.

#### MILL MACHINERY FOR SALE.

One No. 0 Standard Combined Separator, Smutter and Brush Machine; new, best make.  
One 20-Inch Under-Runner Portable Mill, French Buhr Stone, capacity 10 to 12 bushels per hour; new, best make.  
One 14-Inch Vertical Feed Mill; best make, new, a bargain.  
One No. 6 Dustless Separator; new, a bargain.  
One No. 1 Full Rigged Combined Dustless Separator; new, a bargain.  
Four Corn Cob Crushers, right or left hand, driven from above or below, best make; capacity 40 to 60 bushels per hour.  
Three No. 1 Corn Shellers, capacity 200 to 300 bushels per hour; new.  
One No. 2 Purifier. New. Best make. A bargain.  
For particulars address, FRANK SMITH, care of THE MILLING WORLD, Buffalo, N. Y. 5tf

## FOR SALE CHEAP.

One 36-In. Iron Frame Portable Mill, French Burr Stone, Used about 2 months.  
One 20-In. Vertical Mill, French Burr Stone, Used about 30 days.  
Three Pair 42-In. Old Stock Feed Stones.

FOR PARTICULARS ADDRESS,

**SAMUEL CAREY, 17 BROADWAY, NEW YORK.**

#### FOR RENT.

Clinton Mills, at Black Rock, Buffalo, for rent on reasonable terms, recently repaired and put in good order. Apply to CHAS. DANIELS, over 811 Main Street, Buffalo, N. Y. 8tf

CROPS and matrimony are intimately related. The large yield of corn and wheat in Kansas is said to have caused a heavy increase in the number of marriages. Why not? With plenty of johnnycake and slapjacks and crullers assured, why should not the gentle prairians of Kansas hitch hoppers?

HAS any miller, or mill-builder, or manufacturer of milling machinery in the United States seen Carl Haggemacher's "Plansichter" or Eugen Kreiss's "Gegenflachen Sichter" in operation? If these machines can do a fraction of what is claimed for them by German and British flour-makers, it will stand American flour-makers in hand to start with the procession. If they succeed, a real "revolution in milling" is nearer at hand than millers may imagine. Are American manufacturers taking proper precautions to test the claims of these two German machines?

ACCORDING to the Montreal "Canadian Journal of Commerce" the recent "corner" of the Ogilvie Milling Company on the Manitoba wheat market "was effected at a cost of \$550,000." At first it was announced that the corner included 4,000,000 bushels. Two succeeding reports reduced it to 3,000,000 and finally to 2,000,000 bushels. An "authoritative" report placed it at 1,500,000 bushels. Now the Montreal estimate seems to indicate that it includes about 680,000 bushels. If the purchase of that insignificant amount constitutes a "corner" in Manitoba, that province must, indeed, be short of wheat, even shorter than the most pessimistic reports and estimates have made it.

LIGHT promises to break soon in a quarter where great darkness has reigned for some time. The Fool Interstate Commerce Law is beginning to be appreciated by the public, whom it was passed to benefit, and who have suffered in consequence of its passage. The first step has been taken in abolishing it. A dispatch from Washington, D. C., dated January 17, says: Representative Elijah A. Morse, of Massachusetts, addressed the House Committee on Commerce to-day in advocacy of his two bills, one for the entire repeal of the Interstate Commerce Law and the other for the repeal of the long and short haul and anti-pooling sections. He asserted that the law had to a large extent stopped railroad development and building, and it had been intimidated by good authorities that the law had caused a shrinkage of more than \$200,000,000 in value of railroad property in this country, without any compensating advantage to the people. Mr. Morse demanded that if the law was to continue in force it should be made applicable to Canadian railroads. The statement in the annual report of the Interstate Commerce Commission that the tendency of freight has been downward, Mr. Morse declared was absolutely and unqualifiedly false as applied to the whole country. He read a published statement of five of the largest beef-packing companies of Chicago, showing that their cargoes for transportation of freight have been increased \$950,000 since the Interstate Commerce Law went into effect. The present rate, the statement of the beef-packing companies showed, is 14½ per cent. greater than the average for the six years preceding the passage of the law. There can be but one opinion among sane and honest men. The Interstate Commerce Law is a fraud on the public, a crime against the railroads, a wholesale imposition on every American interest connected with railroads. It is too paternal. It takes away the right of business men to conduct their own affairs. It sets spies and informers at work prying into the business of the railroads. It hurts American private enterprises. It helps Canadian subsidized enterprises. It is an unreasonable, unconstitutional and un-American law. It imposes extra burdens on the public where it promised less burdens. It is a gross failure. It ought not to be in existence. Let the Fool Interstate Commerce Law go! Hasten its going!



### ON THE AREAS OF SEGMENTS.

*"The Locomotive."*

Among the calculations that the engineer often wants to make, there is one for which no simple and perfectly accurate rule can be given. We refer to the calculation of the area of a segment of a circle. Rules based on the principles of trigonometry can be given readily enough, but they are not at all suited to the engineer, who wants something that is simple, that gives fairly accurate results and that he can easily carry in his head. Following is a rule that is simple enough, but which gives results that may be in error by 15 per cent. or thereabouts. When such an error is permissible, this rule may be used; but when further refinement is necessary, one of those given below should be substituted for it. The shaded part in Fig. 1 may be considered as made up of a triangle and two small segments lying on either side of it. The area of the triangle may be found by multiplying the base by half the altitude; and it has been found, by calculations based on more exact methods, that the two small segments, taken together, are about equal to half the triangle. Therefore we have the following: Rule I. Multiply the base of the segment by half the altitude, and to the product add half of itself. (Error may amount to 15 per cent or so.) Thus in Fig. 1, half the altitude of the segment is  $12\frac{1}{2}$  inches, and  $25 \text{ inches} \div 2 = 12\frac{1}{2} \text{ inches}$ . Then, by the rule,  $86.6 \text{ inches} \times 12\frac{1}{2} \text{ inches} = 1,083$ . Then half of 1,083 is 541, and  $1,083 + 541 = 1,624 \text{ square inches}$ , which is the area sought.

The most satisfactory way to calculate the area of a segment is that given in the "Locomotive" for December, 1886. This method is exact, but it requires the engineer or inspector

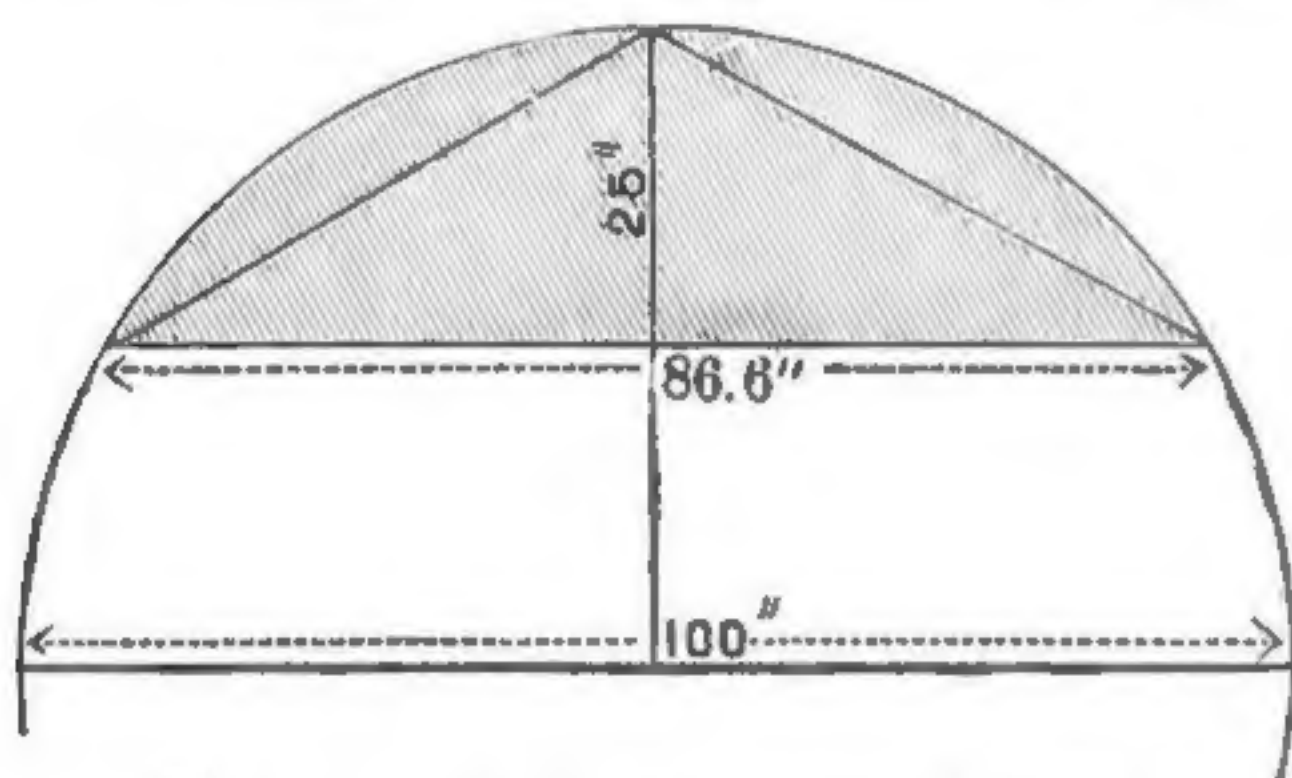


FIG. 1. —ILLUSTRATING RULE I.

to have the table with him whenever he wishes to calculate a segment. A method based on Simpson's rule for irregular figures (see Rankine's "Rules and Tables," p. 64.) is shown in Fig. 2. The base of the segment is divided into halves, and one of these halves is again divided into quarters, and a perpendicular line is drawn through each point of division up to the circle. These perpendicular lines are then measured, and each is multiplied by the number written against it in the shaded space; all the products are added together, the sum is multiplied by the base of the segment, and the product, divided by 12, is the area sought. The rule is exact when the small parts into which the curve is divided are arcs of parabolas, and it is only approximate when these parts are only approximately parabolic. In the case of the circle, therefore, the rule is not exact; yet its accuracy is quite surprising. In the case of a 66-inch circle, measurements of the perpendicular lines gave the results written above the lines respectively. The calculation is as follows:

$$\begin{array}{rcl}
 25 \text{ inches} \times 1 & = & 25 \text{ inches} \\
 24 \text{ inches} \times 4 & = & 96 \text{ " } \\
 20\frac{7}{8} \text{ inches} \times 2 & = & 41\frac{1}{4} \text{ " } \quad 221\frac{1}{4} \times 64 = 14,160; \text{ and} \\
 14\frac{5}{8} \text{ inches} \times 4 & = & 58\frac{1}{2} \text{ " } \quad 14,160 \div 12 = 1,180 \text{ sq. in. } \textit{Ans.} \\
 \hline
 \text{Sum} & = & 221\frac{1}{4} \text{ " }
 \end{array}$$

The reader, after studying the preceding calculation carefully, will find the following useful: Rule II. Divide the base of the segment into halves, and divide one of these halves into quarters. Draw perpendiculars through each point of division till they meet the circle, and measure each one of them. Then multiply the middle one by 1, the next one by 4, the next by 2, and the last by 4. Add all the prod.

ucts together, multiply the sum by the base of the segment, and divide by 12. The result is the area of the segment. (Error is never greater than one per cent.)

A similar but very much simpler rule than this may be given, which is never more than four per cent. in error, and which suffices for every practical requirement except in cases in which the greatest possible accuracy is required. It is illustrated in Fig. 3. The base of the segment is divided in halves, and one of these is halved again. Perpendiculars are drawn as before, and these are measured. The shorter one is multiplied by 4 and added to the longer one. The sum is multiplied by the base of the segment, and the product divided by 6. Thus, taking the measurements as given in the cut,  $4 \times 20\frac{7}{8}$  inches =  $83\frac{1}{2}$  inches;  $83\frac{1}{2}$  inches + 25 inches =  $108\frac{1}{2}$  inches;  $108\frac{1}{2} \times 64 = 6,944$ ; and  $6,944 \div 6 = 1,157$  sq. in. This process is summed up as follows: Rule III. Divide the base of the segment into halves, and divide one of these again into halves. Through each point of division draw a perpendicular till it strikes the circle. Measure both perpendiculars, and to the long one add four times the short one. Multiply the sum by the base of the segment, and divide by 6. (The result can not be in error by more than four per cent.) The true area in Figs. 2 and 3 is 1,188 sq. in.; so that Rule II gives a result less than one per cent. too small, and Rule III gives a result about three per cent. too small. Both of these rules are most accurate when the height of the segment is small, and are least accurate when the segment is nearly a semicircle. Rule II is recom-

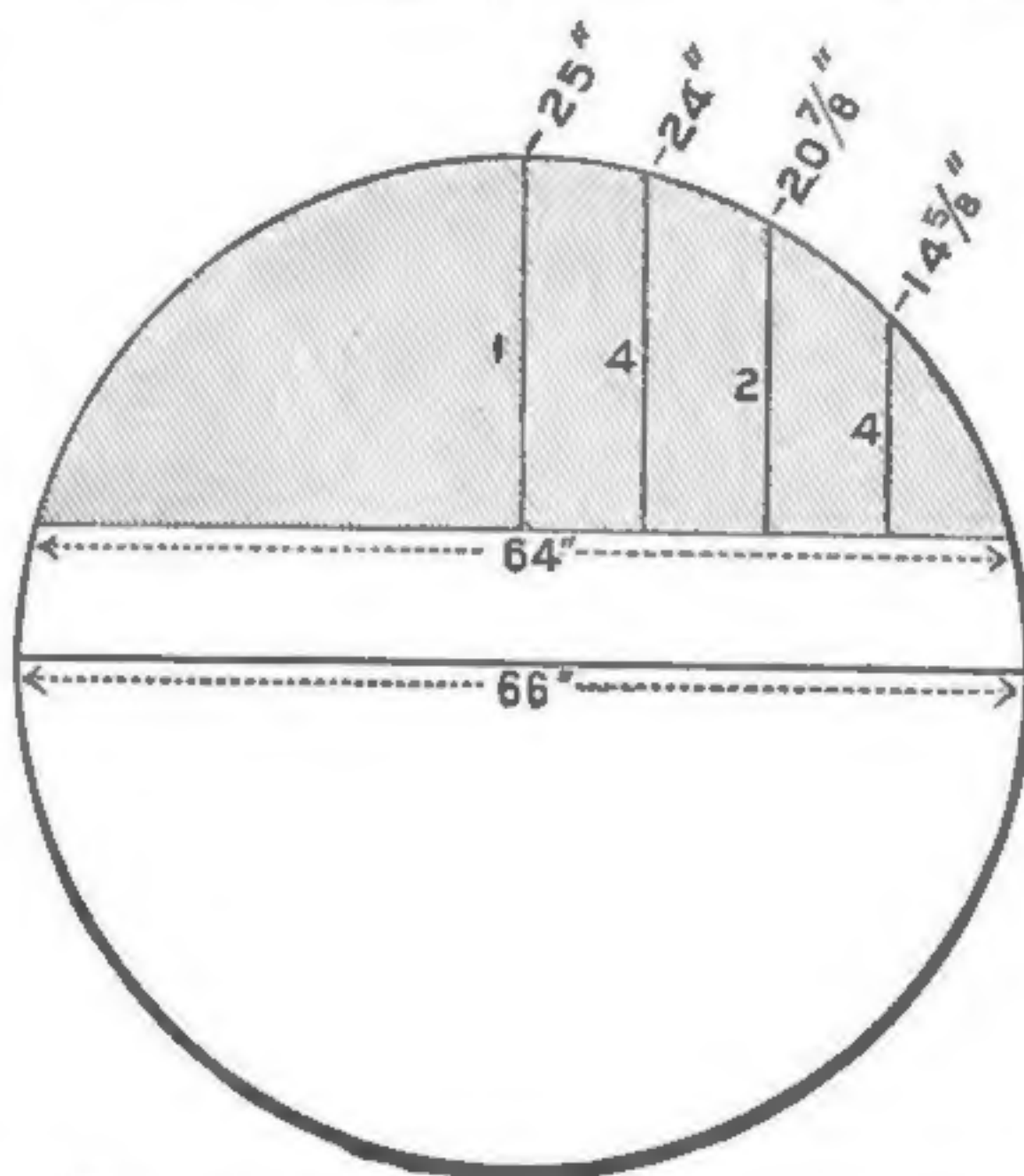


FIG. 2.—ILLUSTRATING RULE II.

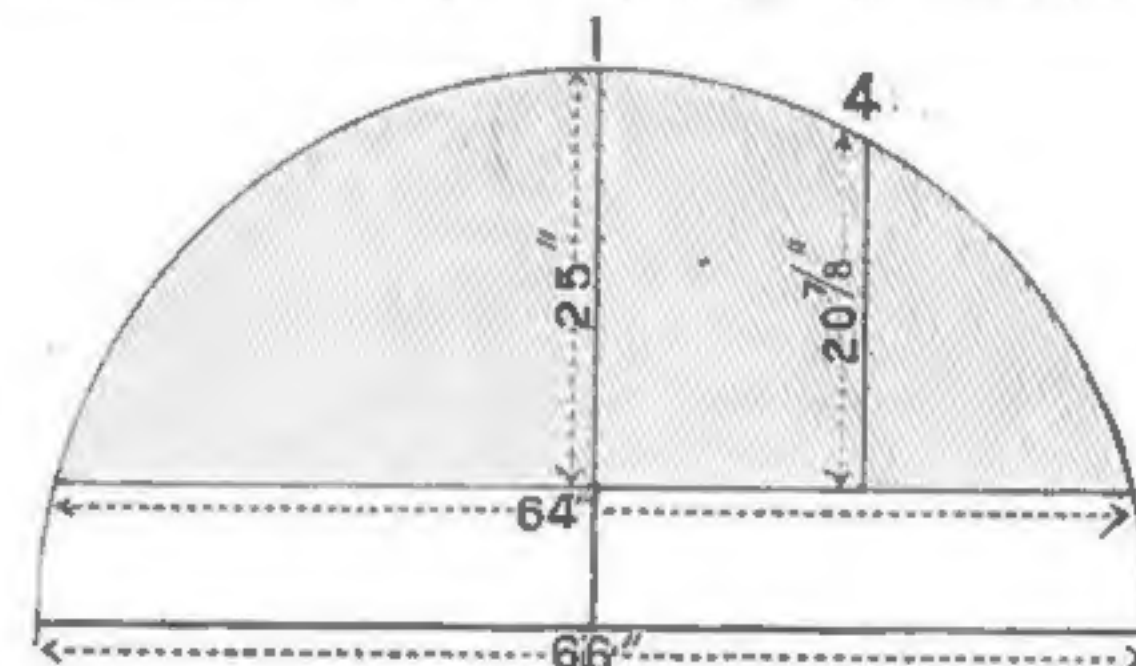


FIG. 3.—ILLUSTRATING RULE III.

mended for draughtsmen, engineers and inspectors.

### SPONTANEOUS IGNITION.

RATING RULE II. All substances that are liable to take fire spontaneously do so more readily when covered up so as to confine the heat generated, or when subjected to artificial heat, either from steam, or hot-air flues, or that of the sun. Oily rags are very liable to burn spontaneously and are doubtless often the cause of fires in factories, junk-shops or paper-mills, which are supposed to be of incendiary origin. Canvas, when painted with oil paint and rolled up or packed closely into a confined place, is pretty sure to burn. Ordinary oiled clothing, such as is worn by sailors, when piled in heaps on shelves or elsewhere, is very subject to spontaneous ignition. Such goods should always be hung up, so as to admit a free circulation of air around them. Spent tan-bark will ignite spontaneously when stacked up in heaps. It is for this reason often used in white-lead works to generate carbon dioxide by its fermenting in the corroding beds. The moistening of such fibrous substances as cotton, hair or wool is always attended with slight heat. Wet iron-filings generate heat readily, as does also rusting iron. Very fine fragments of iron and steel, by their rapid oxidation, will become red-hot, and some English scientists declare that the fires known to be caused by steam-pipes constantly in contact with wood originate from the rust of the iron. An English authority says: "When oxide of iron is placed in contact with wood excluded from the atmosphere, and aided by a slightly-increased temperature, the oxide parts with its oxygen and is converted into very finely-divided particles of metallic iron having such an affinity for oxygen that, when afterward exposed to the action of the atmosphere from any cause, oxygen is absorbed so rapidly that these particles become

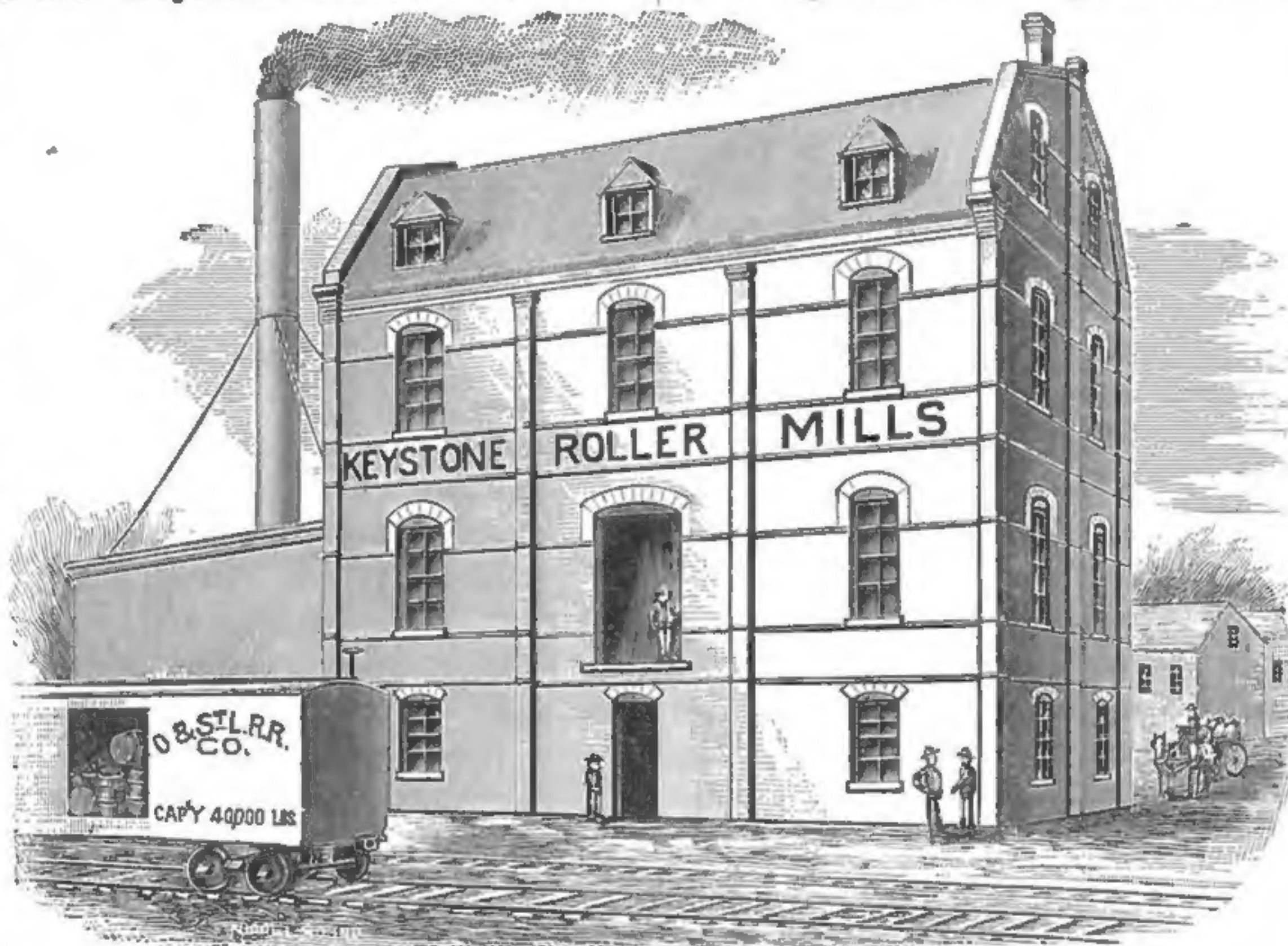


red-hot and if in sufficient quantity will produce a temperature far beyond the ignitable point of dry timber. Whenever iron pipes are employed for the circulation of any heated medium, whether hot water, hot air or steam, and wherever the pipes are allowed to become rusty and are also in close contact with wood, it is only necessary to suppose that under these circumstances the finely-divided particles of metallic iron become exposed to the action of the atmosphere, and this may occur from the mere expansion or contraction of the pipes, in order to account for many of the fires which periodically take place at the commencement of the winter season."

It is very difficult to get persons to believe that there is any danger from fire arising from the contact of steam-pipes with wood, notwithstanding that there have been well-attested cases of fires originating from this cause. Iron scraps or filings or lathe chips, always found on the floors of machine-shops, and usually more or less oily, are very liable to heat if they become rusty, and particularly so when sawdust is used, as is often the case in bolt-works. There is an instance on record where a large machine-shop was flooded by a sudden freshet, wetting the heaps of iron filings on the floor, which became heated immediately after the water had subsided.

#### AN ALLFREE MODEL MILL.

Herewith is illustrated the "Keystone Roller Mills," built by the well-known J. B. Allfree Company, of Indianapolis, Ind., for Messrs. Butler and Taylor, of Stanberry, Mo. The capacity is 50 to 60 barrels of flour and 30 to 40 barrels of granulated meal per day. The mill building is a three-story brick structure with basement and attic. The engine-house, which is also of brick, contains a 50-horse-power Allfree Automatic Engine and a 60-horse-power boiler. The woodwork is all A No. 1 and put up first-class in every respect. The J. B. Allfree Company fulfilled its contract to the letter. The proprietors cheerfully recommend the company to any one who is going to build a mill. The mill was started Sept. 1, 1889, and has been running full time since and doing first-class work. The basement contains elevator-boots, corn-sheller, conveyors for wheat, sinks with a capacity of 1,000 bushels, and line-shafts with belts direct to rolls. On the first floor are four double sets of "Keystone Roller Mills," one four-high "Keystone Roller Mill" for corn and feed, and one flour-packer. The second floor contains four "Success Bolting Reels," one centrifugal reel, one purifier, one bran-duster and a wheat-scourer. The third floor contains a sieve-scalper, one milling-separator, a dust-collector, one corn-meal bolt and heads of 13 elevators. All of the above named machines were manufactured by the J. B. Allfree Company, except the cleaning machinery and dust-collector. The mill has a custom trade of 80 bushels per day and 50 bushels of chop. A specialty is made of the "Champion" brands of winter wheat flour. The brands are as follows: A high patent, "Our Best" and "Our Extra." Home-grown wheat is used exclusively. There is a good demand for the flour, and the firm enjoys a good home trade. Messrs. Butler and Taylor claim that the "Allfree Automatic Engine" is a model of perfection and say they can run the whole mill on a pressure of 30 pounds of steam. They also state that the "Keystone Rolls" are the easiest adjusted and best running rolls in the market, and that the rest of the Allfree machinery can not be praised too highly.



AN ALLFREE MODEL MILL IN MISSOURI

#### BUHR MILLING VERSUS ROLLS.

J. MURRAY CASE.

I.

The damsel's all-day song is hushed and still;  
The unused picks lie silent on the floor;  
The old wood crane has vanished from the mill,  
And idle stands the millstone by the door.

The question is still frequently asked by millers who have not kept pace with the improved methods of milling, "Will we not ultimately abandon rolls in the manufacture of flour, and return to the millstone?" The experience in milling during the past ten years has answered this question beyond controversy. In the minds of advanced millers and experienced engineers there is no more probability of returning to the millstone for the reduction of wheat than there is that we will abandon railroad travel for the old stage-coach. The people demand white flour and strong flour, flour that will bake up light. These qualities in flour can be produced by rolls better than by millstones. In the reduction of wheat by millstones, the natural grit of the stone produces a severe abrasion of the bran, which pulverizes its outer coating so finely that the particles will pass the meshes of the silk along with the flour, however fine the silk may be; and this bran powder produces a discoloration. The flour in color and in merchantable value is not superior to that ordinarily produced from the last two breaks on a six-break roller-mill.

The "nutty flavor" produced by the millstone is due to the disintegration of the germ and its intermingling with the flour. The reason buhr flour will not, as a rule dry out as quickly as roller flour is due principally to the fact that bread made from millstone flour is so compact that the air circulates through it less freely, and consequently the moisture is retained longer. Water will not evaporate so quickly from a potato or a turnip as it will from a sponge; and a loaf of buhr-flour bread, as compact almost as a potato, which some of the London loaves are, must be expected to keep wet about as long as a potato. The fineness of the grain of the loaf governs the evaporation to a great extent. If roller flour is properly kneaded and has sufficient time to absorb to water, it will bake up light, but tough and fine-grained. This makes the best bread, and will not dry out much more rapidly than good buhr flour.

The "nutty flavor" in millstone flour, as I have before remarked, is due to the grinding up of the germ and bolting with the flour. This condition might be obtained with rollers if it were profitable or desirable to do so. In fact buhr flour, so-called, can be made on rolls as well as millstones. There are no chemical qualities in a millstone which the flour absorbs; neither the nutty flavor nor the dark color is extracted from the stone. If the miller operating a roller mill wished to produce "buhr flour," he could do so by grinding close and hot and using scratched rollers on the germ tailings, and then bolting the whole conglomerated mass into one straight flour. This would be a better system of millstone milling than to use millstones, because the rolls require less dressing and care, and for this reason alone, outside of all other considerations, the roll would take precedence over the millstone. So we might say to all those lingering Thomases, "Don't hang to the delusive phantom that we will some day return to the good old millstone days!" It is a hard thing for some men to give up their first love; this is an evidence of fidelity and constancy, but not of good judgment always.

But is there any place in a mill where a millstone can be used to advantage? In answer to this question I may say



"Yes." According to my experience, well purified middlings, free from germ and bran, may be ground upon a millstone without any detriment to the flour, provided the millstones are in perfect condition. In pure middlings we have no bran or germ of any consequence to come in contact with the gritty surface of the stone. All there is to accomplish is to reduce the middlings to a suitable granulation to pass the meshes of the silk. On soft wheats, which incline to "cake" on smooth rolls, and also to grind "woolly," the millstone has the advantage of making a cleaner offal at one grinding. There is less rich material tailing over the patent reel, owing to the fact there is no "caking." In small mills, when I am satisfied the miller will keep his millstone in good order, in the reconstruction, I do not object to the retaining of millstones for this purpose, if they are so located and driven as not to interfere with the best plan of driving and location of rolls.

A saving of about £75 to £100 in the reconstruction of a three-sack mill can thus be effected without any damage to the general results. There is one danger, however, connected with this saving, and that is, in my experience, the miller, as a rule, after putting in rolls for all purposes except the grinding of pure middlings, will in a short time lose all interest in the old millstone, and soon it is out of face, and balance, and tram, when it becomes impossible for it to produce good work. Bob Ingersoll might be expected to get down on his knees and face his Creator about as often as the average roller miller would perform the same act to "face" a millstone. They do not like to do it, consequently they generally do not do it, unless there should be some superannuated old second miller in the mill, who will not have anything to do with the "new-fangled rolls"; and he may be found continually picking and rubbing at the millstones, for there is where his soul is centered; but he will not do to run the balance of the mill. So, upon general principles, it is best not to have a millstone in the mill, except in cases where the proprietor is his own miller and makes up his mind to keep his buhrs in good condition.

I may add that in some of the largest mills in the States, among which is Pillsbury's, of Minneapolis, the millstone is used to grind the best grade of middling, or was at my last visit three years ago, and I have not heard of their being removed. It must be remembered, however, that the expense of keeping a millstone in good grinding condition is much greater than that of rolls to do the same work, and that in the retention of the millstone you are bound to keep a stone-miller to dress them; and the time is coming rapidly when we will have but very few really practical stone dressers, except old men who can not quickly adapt themselves to the new system; so, unless limited finances require the retention of the millstone, it should not be done.

Many millers in the vicinity of London are still running on the old system, a greater number proportionately, probably, than in any other part of the kingdom. This has been brought about, as I believe, largely through the influence of a few prominent bakers of London, who, from a purely selfish and commercial motive, have advocated buhr flour. They have kept London back ten years in the production of good bread. There is no city I have visited, and my wanderings have been quite extensive, but I am not now wandering, where, as a rule, we have as poor bread as in London. It is difficult to get a genuine good white loaf of bread in the average shops of London. Good bread can be had, it is true, and it is served at some of the best hotels; but the great bulk of the stuff is inferior to what we find in the North of England and other places where the bakers seek for the best flours.

These retrogressive bakers have controlled the small bread-shops of London and forced them, so far as they could, to sell this inferior bread. This has made London the dumping ground for all the inferior grades, millstone grades. While the pretense has been that they (the bakers) desired to give their customers "wholesome buhr flour bread," the fact is they wished to give them a bread that cost them the least money to make and upon which they could realize the greatest profit. But this condition of things will not last;

there is a general demand for better bread. This may seem a deviation, but it is legitimately connected with the subject, since it has affected an important question in milling, as it has deterred many from adopting the advanced system of milling and made it a disputed point between roller and buhr milling, within a certain area contingent to London.

This article is the commencement of a series in which I expect to speak, in a general way, of wheat-cleaning, the breaks, the reductions, the bolting systems, besides a number of minor points connected with the roller system of milling, demonstrated and disputed. Parties desiring to ask questions, I shall be pleased to consider them at the proper time and place in the series. My opinions, however, are only the experience of one man, and are not infallible. I may differ widely in my view from others. I shall not undertake to answer any criticism, if offered, until the close of the series.—*London "Millers' Gazette."*

#### ADDRESS TO THE MICHIGAN MILLERS.

Following is an address sent out under date of January 20, 1890, by the Michigan Millers' State Association to the flour-makers of that State:

"This is to notify you that at the annual meeting of the Michigan Millers' State Association, held in the city of Lansing, Mich., Jan. 8th., 1890, an assessment of \$10 on each member, to meet current expenses, was ordered. To you who are members of the Association notice is hereby given that said assessment is due and should be forwarded to me at as early a date as possible. To you who do not belong to the Association I will say that you can become members in full standing, participating in all the benefits to be derived from this organization, past, present or future, by promptly remitting to me the sum of \$10, which will secure your membership for the coming year.

"Michigan has over 700 flouring, feed and grist mills, large and small. Of this number there are not less than 130 roller flouring-mills of a daily capacity of 75 barrels and upward, representing a total capacity of over 20,000 barrels daily and having an investment in plant and working capital at a very low estimate of not less than \$3,250,000. No single one of these mills, at least, can afford to lose the benefits which the Association can give for a paltry ten dollars, or ten times that sum.

"In these days of exhausting competition, when profits disappear and the question is not how much do you make, but how little do you lose, it behooves every man to take advantage of every possible chance that is legitimately offered to fortify his position and secure, if possible, as good as or better footing than his competitor. That the members of this or any other Association, however small, and no matter what the business, have advantages which their neighbors who stay out do not, is no longer questioned. Nobody appreciates this fact more than the men who have interested themselves in association work for years, and nobody more fully understands the greater advantages which might be attained by a larger organization and more united effort than they. Hence the persistence with which, year after year, they strive for increased membership and closer union of interests.

"Imagine an organization in a single state representing 20,000 barrels daily capacity with \$3,250,000 behind it. The millers of Michigan can have just this with an expense so trifling to the individual, compared with the advantages which could be derived, that ten times the cost would not induce one of us to abandon the enterprise. The enactment of the Inter-State Commerce Law has virtually forced the consolidation of transportation companies, and, while it has benefited the shipper and producer in some instances, it has proven a boon to the companies by bringing them together and making the interest of one the interest of all. The various passenger and freight associations which have grown out of the enforced union of interests are of such formidable proportions, and so rigidly maintained, that the individual shipper is powerless to make an impression upon them. Nothing but a combination of manufacturers and shippers, working in harmony, can hope to cope with them. Other



industries, with not half the interests at stake that we have, are moving in these matters with very satisfactory results.

"The question of State grain inspection is being agitated in almost every grain-producing state. Missouri last year followed in the wake of Illinois and Minnesota, the two Dakotas will soon be in line, and it's only a question of time when Michigan will have to give the matter serious attention. The reform has never come without a fight, and the people who control the grain trade of Michigan and juggle grades to suit the interests of their largest patrons, the shameless grain-mixers, will not yield the rich revenue they now derive from the inspection of grain, by an inspector of their own creation, governed by rules of their own making and practically answerable to nobody, without a desperate struggle. The farmers first and the millers next are interested in this reform, and by a union of their interests only can it be brought about. If the millers had been in earnest about this matter, the bill before the last legislature might have become a law. Let us see that we are prepared to win next year.

"The listing and reporting to members of the transactions of tricky and unreliable dealers in the flour trade was made a special feature of the Secretary's work for the coming year. The information gained from this source alone may be worth to any miller in a single transaction all he pays the Association in ten years. A word to the smaller mills: An impression prevails that the big mills get the most of the benefits of organization at the expense of the small ones. Nothing could be further from the truth. The big mills have their men on the road to watch their trade and guard their interests. They have larger capital and better facilities in every way for taking care of themselves than the small mills. If it was good business to 'go it alone,' they of all parties interested could best afford to stay on the outside. If this war of competition is 'fought to a finish,' so the result amounts to the 'survival of the fittest,' the larger mills will die last. The fact is, our interests are mutual, but if there is a preponderance of benefit accruing to the large or small mills, it is in favor of the latter.

"To remove the last shadow of cause for complaint, that the association is any thing but what its name implies, a State-wide organization not run in the interests of a class or section, our old officers who have served us so long, so unselfishly, and so well, by their own request, retired and gave way to an entire new set of men, from widely separated localities and representing every phase of the milling industry, from the 100-barrel mill, doing an almost exclusive local trade, to some of the largest in the state, whose sales extend to every prominent domestic market and many foreign ones. It is hoped that, if any unjust suspicions have been entertained in the past, this action will remove them, and that you will resolve to give your aid and influence to the Association, thus making it one of the best and strongest in the United States.

"Your Secretary, while personally entertaining much more radical views on the subject of millers' organizations than the Association at its annual meeting was prepared to endorse, will nevertheless do all in his power, with the limited means at his disposal, to make the coming year the beginning of a new era in the history of this association. A little later, after knowing just how much support we can command, I will make an effort with your aid and co-operation to find out something about the amount of flour actually shipped from this state in a given time, what markets are affected by it, and particularly what transportation lines carry it for us, with a view of taking advantage of any points which the information may reveal for the exclusive use and benefit of members of this Association. In the meantime please bear in mind that I am your servant, not your master, and that your advice and hearty co-operation are as necessary as your money in making this Association a great and permanent success."

M. A. REYNOLDS,  
Secretary and Treasurer.

This winter, up to date has been a most remarkably unseasonable one. Warm sections of the country, New Mexico

and Arizona, started in with a 12-day blizzard in the early winter. Cold sections, Dakota, Maine and intervening States, furnished blooming pansies, dandelions and crocuses on Christmas. Delaware boasts of full-bloom peach orchards in mid-January. Shad are running up the rivers six weeks ahead of their usual time. It is even hinted that the wheat-fields in Chicago are showing heads and chinch-bugs in January, while in St. Louis hay-making has been the order of the day in all the principal streets for several months. The Pacific Coast has had the heaviest snow recorded in a half century, and in every part of our great and glorious land there are evidences of an absolutely inexplicable discombobulation of things geographical and meteorological. We recommend to debating societies the discussion of the very important subject: "The Whenceforthness of this Thusli-ness."

#### OBITUARY NOTE.

Mr. George Walker, of Hamburg, N. Y., an old and well-known millwright, bridge-builder and mechanical engineer, died January 22, of influenza and pneumonia, after a short illness. Mr. Walker was a man of great mathematical talent, and his technical articles on milling and kindred subjects, which appeared in THE MILLING WORLD, were always widely quoted. He was born in Owego, N. Y., June 3, 1814. His work in mill-building included many plants in New York, Pennsylvania, Ohio and Michigan. Among the journals to which he contributed are the *Scientific American*, the *American Miller* and the *United States Miller*. He built the Fish astronomical observatory at Hamburg, which has been declared by experts to be one of the most convenient affairs of the kind in the world. Among patents secured by Mr. Walker were those on a belt-tightener, a middlings-purifier and a washing-machine, and his unpatented inventions include a car-coupler and an anti-friction journal-bearing. His latest invention is a turbine water-wheel, which is said to be a most valuable wheel. Mr. Walker was a gentleman of suave temper, amiable disposition and decided ability, and a large circle of friends will mourn his death. His wife and three children survive him. His remains were cremated in Buffalo, in accordance with his preference.

#### A NEW METHOD OF TREATING DISEASE.

##### HOSPITAL REMEDIES.

What are they? There is a new departure in the treatment of disease. It consists in the collection of the specifics used by noted specialists of Europe and America, and bringing them within the reach of all. For instance the treatment pursued by special physicians who treat indigestion, stomach and liver troubles only, was obtained and prepared. The treatment of other physicians, celebrated for curing catarrh was procured, and so on till these incomparable cures now include disease of the lungs, kidneys, female weakness, rheumatism and nervous debility.

This new method of "one remedy for one disease" must appeal to the common sense of all sufferers, many of whom have experienced the ill effects, and thoroughly realize the absurdity of the claims of Patent Medicines which are guaranteed to cure every ill out of a single bottle, and the use of which, as statistics prove, has ruined more stomachs than alcohol. A circular describing these new remedies is sent free on receipt of stamp to pay postage by Hospital Remedy Company, Toronto, Canada, sole proprietors.

#### SPECIAL NOTICES.

##### BOLTING CLOTH.

Do not order your cloth until you have conferred with us. It will pay you, both in point of quality and price. We are prepared with special facilities for this work. Write us before you order.

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**RUSTLESS IRON MADE CHEAP.**—The hydro-carbon process of treating iron so that it will not corrode is said to cost less than one-half of that of galvanizing, while the durability, under similar conditions, is considerably extended.

## GENERAL NOTES.

It has been estimated that more than 400,000,000 human mummies were made in Egypt from the beginning of the art of embalming until its discontinuance in the seventh century. Herodotus and Diodorus agree in the statement that there were three grades of embalming. The first cost, about \$1,225, the second about \$375, and the third was very cheap.

### MOVING ON TO WASHINGTON.

Following is the full text of the memorial to Congress, or to the Committee of Ways and Means, sent by the Millers' National Association, under date of January 4, 1890:

"Gentlemen: The Millers' National Association of the United States, in behalf of the flour manufacturers, grain raisers and handlers of the country, respectfully urge that in the preparation of the tariff bill to be presented to the Fifty-first Congress you recommend the placing of jute (not to be confounded with jute butts) and jute cloth (burlap) upon the free list, and that a duty sufficient to protect the interests of American bag manufacturers be retained upon bags which are made from jute. It is probably unnecessary for us to advance any arguments in favor of free raw jute, as the exposition of this subject by the manufacturers of jute articles before your honorable committee has been so clearly presented that we feel sure you will realize the necessity of affording relief from this unnecessary tax upon users of an article which is of purely foreign production. We will, therefore, merely second the plea of the above mentioned gentlemen for free raw jute.

"The present duty on jute cloth increases the cost of bags, which are generally used by millers for exporting flour and handling grain and various mill products, from 22 to 30 per cent. and acts as a burden to all exporters of flour. About 90 per cent. of the flour which is exported from the United States is shipped in jute bags. These bags are manufactured from burlap which is imported from Scotland. It is true that jute cloth is made, to a very limited extent, in this country, from the raw material; but experience has taught most exporters of flour that the domestic product can not be relied upon. Therefore, abolition of duty on raw material and retention of duty upon the burlap would only afford partial relief to millers. In pleading for the retention of duty on burlap the statement was made that American manufacturers think they will be able to produce a jute cloth, with free raw material, which will supply our wants. We believe that Scotch manufacturers practically control the better qualities or grades of the raw material, and we doubt the ability of American manufacturers to properly supply the enormous demands of our country for this article.

"After many years of protection, which this industry has enjoyed, largely at the expense of the flour-milling and grain-raising industries of the country, we are unable to discover signs of encouragement that our needs will be supplied by American manufacturers, and we feel that it is unjust that so important an industry as the manufacture of flour in the United States should longer be taxed, as it has been, to foster so weakly an enterprise as the manufacture of jute material has proven to be. With free raw jute, we believe that the manufacturers of burlaps can, by employing improved machinery, have ample opportunity to demonstrate the ability claimed, to meet foreign competition. If they furnish proper quality and can show that they need a protect-

ive duty to increase the growth of their industry, then, and not till then, let the millers of the country be taxed, but let the duty be specific and not ad valorem. As to the plea that millers should not object to paying a little more for their jute bags in order to retain a duty upon jute cloth, because the manufacturers of these bags have never formed a trust, or increased prices through 'clannish understandings,' such argument is similar to asking a man to contribute to your support because you have refrained from breaking into his house and burglarizing it.

"Under the existing tariff, when imported jute material goes out of the country with grain, flour, etc., the government allows a rebate to the exporter of 90 per cent. of the duty which was paid; but in order to collect this rebate it is necessary, in the case of a miller, to secure a custom-house bill-of-lading, make affidavit as to the claim and send it to a broker, who makes out the necessary papers and attends to the collection. After from 60 to 90 days, and sometimes longer, the miller receives a small proportion of the rebate, perhaps 25 per cent., the balance going into the broker's pocket to pay his fees, 'expenses of collection,' etc. This system has proven a great annoyance and burden to our export flour trade. Of late some bag manufacturers have allowed millers a 10-per-cent. rebate on the invoice price of bags bought from them, upon presentation of an export bill-of-lading to show that they have been shipped out of the country, and most millers prefer to accept this rebate rather than submit to the annoyance of collecting the regular government rebate through brokers, though the government rebate should be nearly double the amount they receive on the 10-per-cent. basis.

"Jute export bags are made to contain 140 and 280 pounds of wheat flour. The customary size requires about 1½ yards of burlap and costs about 15 cents each. Allowing the 10-per-cent. rebate of the manufacturer, the net cost to the miller is about 13½ cents. The cost of this 1½ yards of imported burlap, not including the 30-per-cent. ad valorem duty, would probably never exceed 10 cents; adding to this 1 cent per bag for making, the customary estimate, millers should be able to obtain their export bags for 11 cents apiece, if free from duty, a saving of about 2½ cents each. According to the last quarterly report of the Bureau of Statistics, there were exported during the year ending June 30, 1889, 9,378,472 barrels or bags of rye and wheat flour, fully 90 per cent. of which was packed in jute. The export flour trade of the United States was much smaller during this period than it should have been, owing to a combination of causes, and was much less than it will be during the ensuing year, provided we can realize our hopes and accomplish improvements in trade conditions, which we are striving for. The margin of profit to the miller upon exported flour is very small, every cent per bag counting in the aggregate in large figures. The millers of our country have been studying an important problem, which has of late confronted them, the question of over-production, the solution of which lies in disposing of our excess product in foreign markets. We must increase our export trade, and a margin of but a few cents per package will materially aid us to do so.

"In allowing a rebate of 90 per cent. on the ad valorem duty of 30 per cent. the government retains but 3 per cent., and, in order to keep track of the different grades of jute, different grades having different prices, an army of men must be employed to examine carefully each shipment, taking samples of the import invoices, in order to prevent, as far as possible, dishonesty and undervaluation. We believe that it costs the government several times this 3 per cent. to take care of the tax, and that the government shares with millers the burden of the existing tariff. Our export flour trade needs and should receive encouragement and help. Not only would the flour manufacture of the country, one of its most important industries, be benefited by its increase, but it should be borne in mind also that every bushel of wheat manufactured in this country into flour and then exported benefits the agriculturist and gives employment to the laborer, retaining at the same time so much money in the country. Nothing should be done to encourage the ex-



portation of wheat in preference to flour, to be manufactured by the cheaper labor of foreign countries. Millers throughout the entire country are united in a desire for free jute and burlaps. As evidence of the general sentiment upon the subject, we beg to submit copies of resolutions

adopted by millers and grain dealers in six of the leading flour manufacturing centers. These resolutions resulted from an announcement that The Millers' National Association would join in an effort to secure the abolition of the present tariff on jute."

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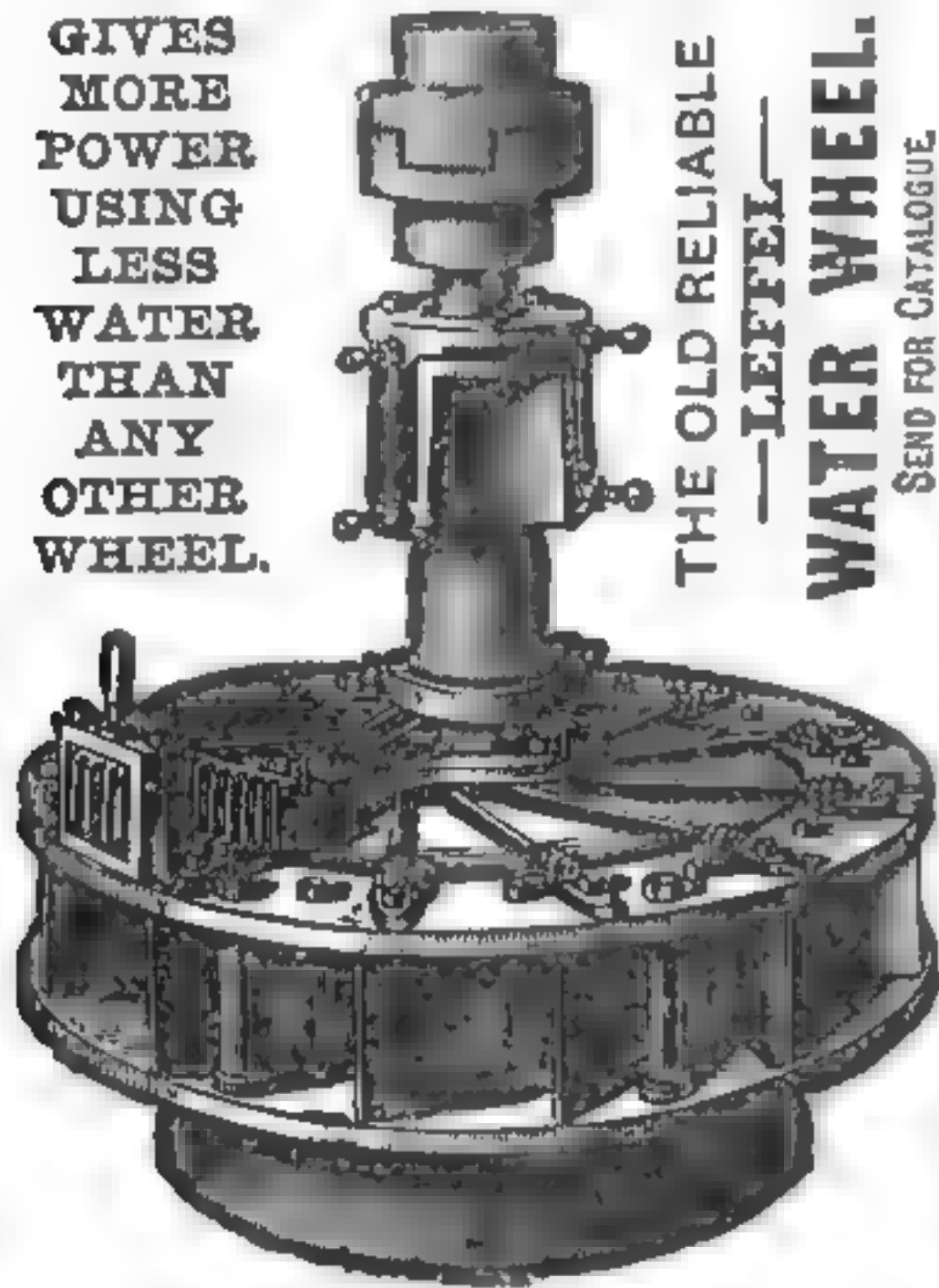
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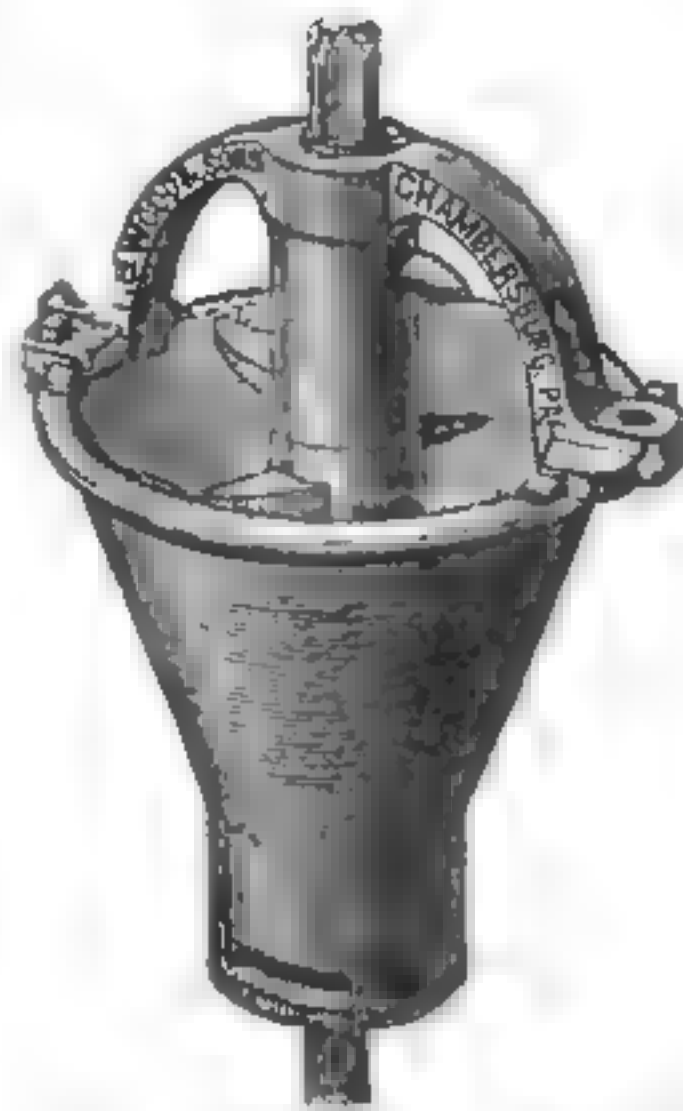
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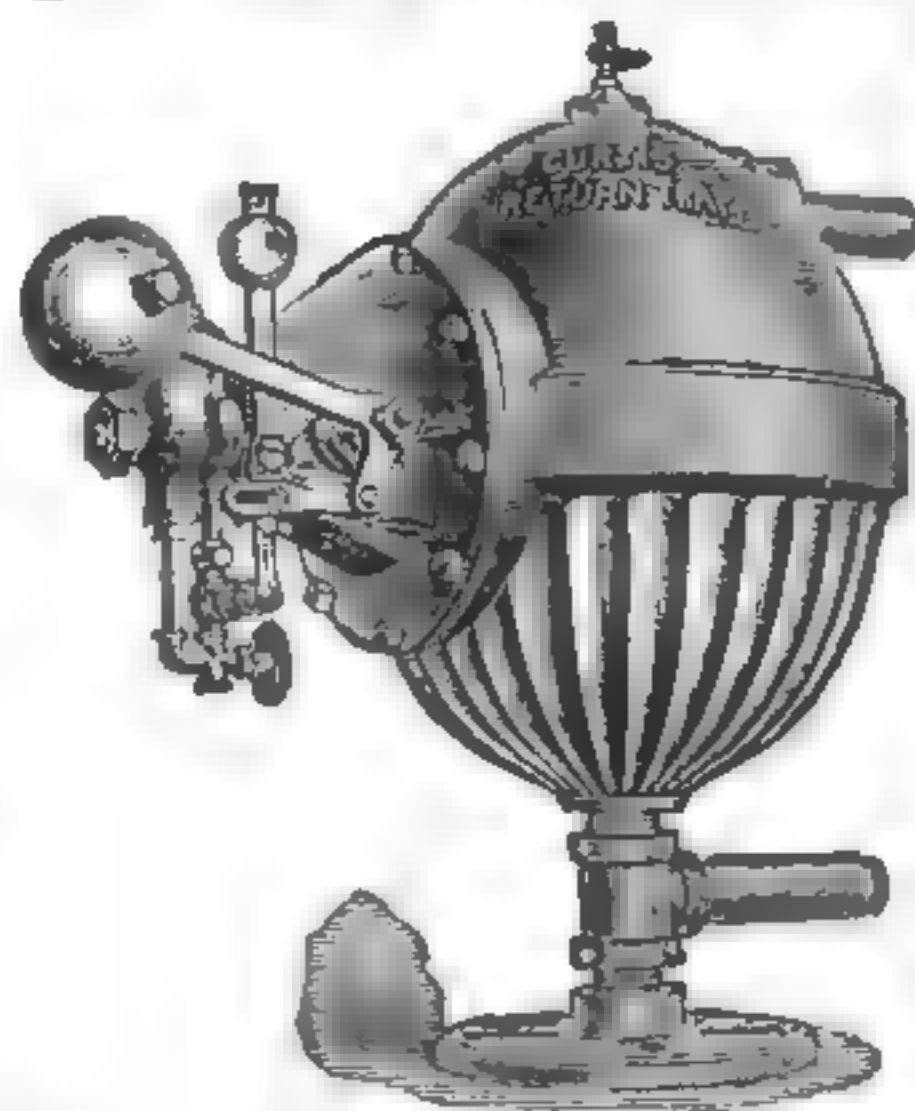
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It is noiseless, positive, rapid, will return all condensation back into the boiler, and works equally well in connection with reduced pressure or exhaust steam, also when the return is below the water line of the boiler.

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## The Canton Cabinet Filing Case Company, Canton, Ohio.

MANUFACTURERS OF

The New Buckeye Document Case & Letter File; Also All Kinds Office Furniture

**NO. 8** Represents one side of one of our Revolving Cabinet Letter Files and Document Cases Combined. It contains 30 Document Drawers and 8 Letter File Drawers. In filing letters we use first VOWEL of name on front of drawer, and LETTER FOLLOWING first VOWEL on Index Sheet within drawer. We also make more exhaustive systems which contain from 6 to 100 or more Filing Drawers.

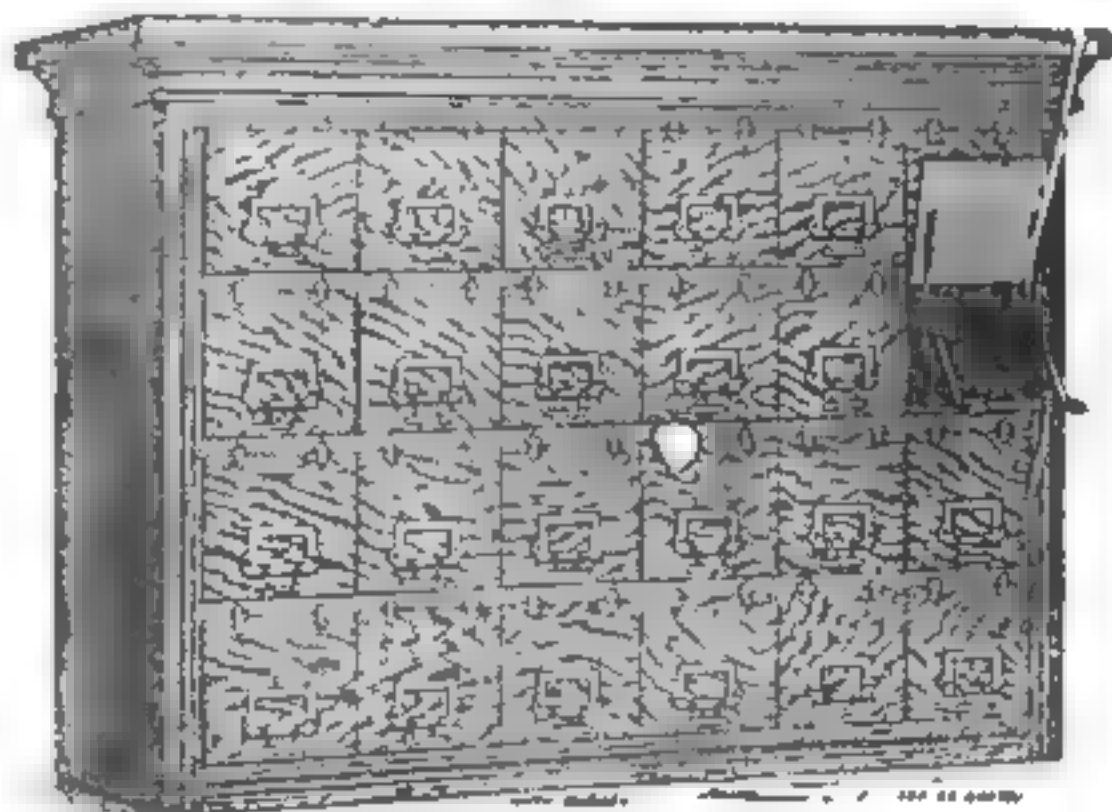
**NO. 1** Represents one of our small Document Cabinets, for use on desks or brackets. Action of drawer can be seen in the cut. When front is raised inner drawer comes forward, exposing contents of drawer for inspection.

Our Cabinet Files are Conceded to be the Most Convenient of Any in the Market. They are Compact, Simple, Complete, Durable and Ornamental.

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NO. 8.



NO. 1





A. Gregg, Florence, S. C., rebuilds his burned grist-mill.

The Oxford Milling Co., Brownsville, Ore., is a recently incorporated concern.

The National Pulley Covering Co., of Baltimore, Md., have recently received their second order for their "Patent Friction Covering" for pulleys from Mason & Hamlin, manufacturers of pianos, Boston, Mass., and the Kidd Steel Wire Co., of Harmarville, Pa., both of whom in placing their order informed the company that the order was given through the satisfactory results obtained from its first use. The company will be pleased to furnish any desired information about their goods and solicit trial orders, having every confidence as to the results which will be obtained.

Says the Montreal, Canada, *Trade Bulletin*: "The flour trade of Canada is placed in a very precarious position at present, as, owing to the undoubtedly short crop of wheat in Ontario and the Northwest, the price of that cereal has advanced beyond all proportion to the value of flour, and Ontario millers state most positively that, unless flour appreciates in value, they will be compelled to close their mills and go out of the business. On the other hand, dealers here state that to put up prices to any extent now would at once invite large importations of American flour into Canada, and hence it is contended that the only remedy for restoring the trade to a healthy condition is to impose an extra duty on flour, or else reduce that on wheat. This is what we advocated some time since, and it is said that if any change in the tariff be contemplated, it will be to raise the duty on flour. In fact, it is strongly hinted in certain quarters that it is quite likely that the flour duty will be raised."

A meeting of the flour-millers of Milwaukee, Wisconsin, was held at the Chamber of Commerce, January 20th, 1890, and the following preamble and resolution were unanimously adopted: *Whereas*, Section 23 of the Customs Administration Bill, introduced in the House of Representatives December 16th, 1889, provides: 1st, That drawback shall not be allowed on articles unless the cost of manufacture of the export article shall be equal to 25 per centum or more of the value of the imported material, of which such article is composed. 2nd, That drawback shall only be allowed on articles manufactured from imported crude material. 3rd, That drawback claims must be made in the name of the actual shippers or owners of the goods. 4th, That a landing certificate, signed by the consignees, master and mate of the export vessel and by the United States Consul at the port of landing, must be procured to cover each separate consignment, the drawback in no case to be paid until this landing certificate is furnished by the collector of customs at the port for export. And *Whereas*, 1st, The cost of manufacture of jute bags used by flour exporters is not 25 per centum more than the value of the imported material from which they are made. 2nd, That burlaps (jute cloth) is not considered a crude material, and Scotch manufacturers practically control its production. 3rd, That each miller or flour exporter would be obliged to make his individual claims for all rebates, making it impossible to collect the same through the manufacturer from whom he purchases his bags, thus greatly increasing the cost of collection of these drawbacks. 4th, That in view of short shipments and split consignments, as well as other evident reasons, it would be practically impossible to procure a properly executed landing certificate from abroad covering each shipment of bags exported with flour. And *Whereas*, The passage of such a bill would greatly add to the hardships which exporters of flour have been made to suffer in the past, and would work serious injury to the export flour trade of our country, a trade which is important, not only to the miller, but also to the agricultural and labor interests of the United States, therefore be it *Resolved*: That the flour manufacturers

of Milwaukee and the State of Wisconsin do most earnestly protest against the passage of the bill known as H. R. 4, introduced in the House of Representatives by William McKinley, December 16th, 1889, and urge that their Senators and Representatives in Congress do energetically oppose its passage, unless jute and jute cloth (burlaps) shall have been first placed upon the free list.

The fourth annual convention of the Nebraska Millers' Association was held at the Capital Hotel, Lincoln, Neb., on January 16th and 17th. The severe storms prevented many members from attending, but the session was an interesting one. The meeting opened at 7:30 p. m., with President C. C. White, of Crete, in the chair. In his annual address he stated that the past year had not been an unprofitable one for the millers of Nebraska. He urged the association to unite with the National Association as the best means of securing protection. Individually, he favored co-operation. After President White's address, secretary and treasurer D. H. Harris, of Bennett, read the minutes of the last annual and special meetings, both of which were approved. In his annual report as secretary and treasurer he recommended the adoption of means to defend members against patent litigation and against litigation in cases of accidents to employees. He favored mutual fire insurance and urged the association to join the National. Secretary Barry of the National Association was introduced, and he repeated with some variations his familiar address on the value of membership in that organization, after which the convention voted itself into the National Association. After a brief intermission, during which belated members arrived and were welcomed, election of officers occurred, resulting in the choice of the following gentlemen: President—O. A. Cooper, of Humboldt. Secretary and treasurer—D. H. Harris, of Bennett. Executive committee—F. S. Johnson, Milford; Z. L. Leftwich, St. Paul; A. Jaeggi, Columbus. Representative to executive committee national association—C. C. White, Crete. The following assistant secretaries were appointed to reorganize district associations: H. N. Wolf, Culbertson; James Vierregg, jr., of Central City; S. A. Coombs, Homer, and C. L. Miling, Ithaca. The evening session ended with a long discussion of some of the recommendations in the reports of the secretary and treasurer. The closing session was held on the 17th. It was principally taken up in a discussion of the freight-rate question, many of the speakers asserting that the railroads discriminate against the millers of Nebraska and in favor of those of other States. The executive committee, consisting of Messrs. F. S. Johnson, Z. L. Leftwich and A. Jaeggi, was instructed to present the matter of discrimination before the managers of the various railroads and ask for an equitable adjustment. A resolution was adopted endorsing the action of the Millers' National Association in its efforts to secure the placing of raw jute and burlap on the free list, and a memorial to congress was ordered prepared to be forwarded to the Nebraska delegation. The convention adjourned sine die.

Says *Chicago Daily Business*: The flour trade of British Columbia is not a very important one, but there is apparently enough in it to make it an object of contention between American millers on the Pacific coast and their Canadian rivals in Manitoba. In 1888 the total consumption of the country amounted to 63,490 barrels. Of this quantity Manitoba furnished 28,980 barrels, 19,250 barrels were imported from Pacific coast points in the United States, and the balance of 15,260 barrels was manufactured at the local mill at Enderby, Spallumcheen district, which is the only flour-mill in British Columbia. During 1889 the consumption increased with the growth of the population to 74,280 barrels, which was contributed as follows: From the Pacific coast of the United States 33,530 barrels; from Manitoba 16,980, and from their own local mill 23,770 barrels. Thanks to the bull manipulations which Mr. Fairbank of this city started in 1888 and continued in 1889, wheat in Manitoba advanced to such an extent that the millers of that province could not successfully compete for the British Columbian trade, as seen by a comparison of the figures given above for the years 1888 and 1889, and Canadians are now agitating for an increased import duty on flour. The foregoing is only one example out of a dozen which might be cited of the far-reaching effect of the daily wrangle in the bull-ring on the floor of the Chicago Board of Trade, more especially when an attempt is being made to turn prices out of their natural channel.



**W.A. BINGHAM,**  
MANUFACTURER OF  
**FLOUR SACKS.**  
178 Duane Street,  
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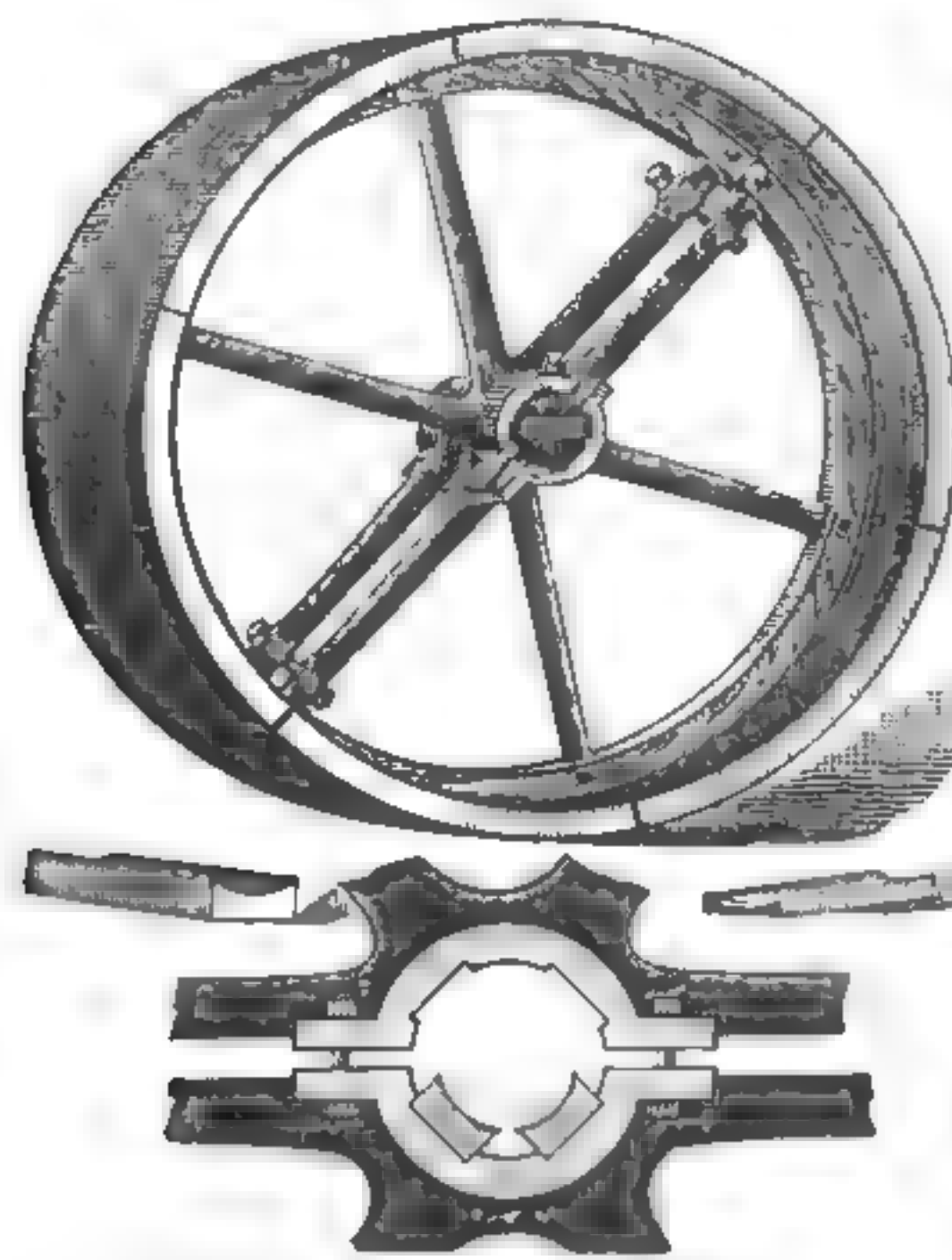


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MILLERS' FLOUR SACKS A SPECIALTY.

THE PATRONAGE of the MILLING TRADE is MOST RESPECTFULLY SOLICITED.





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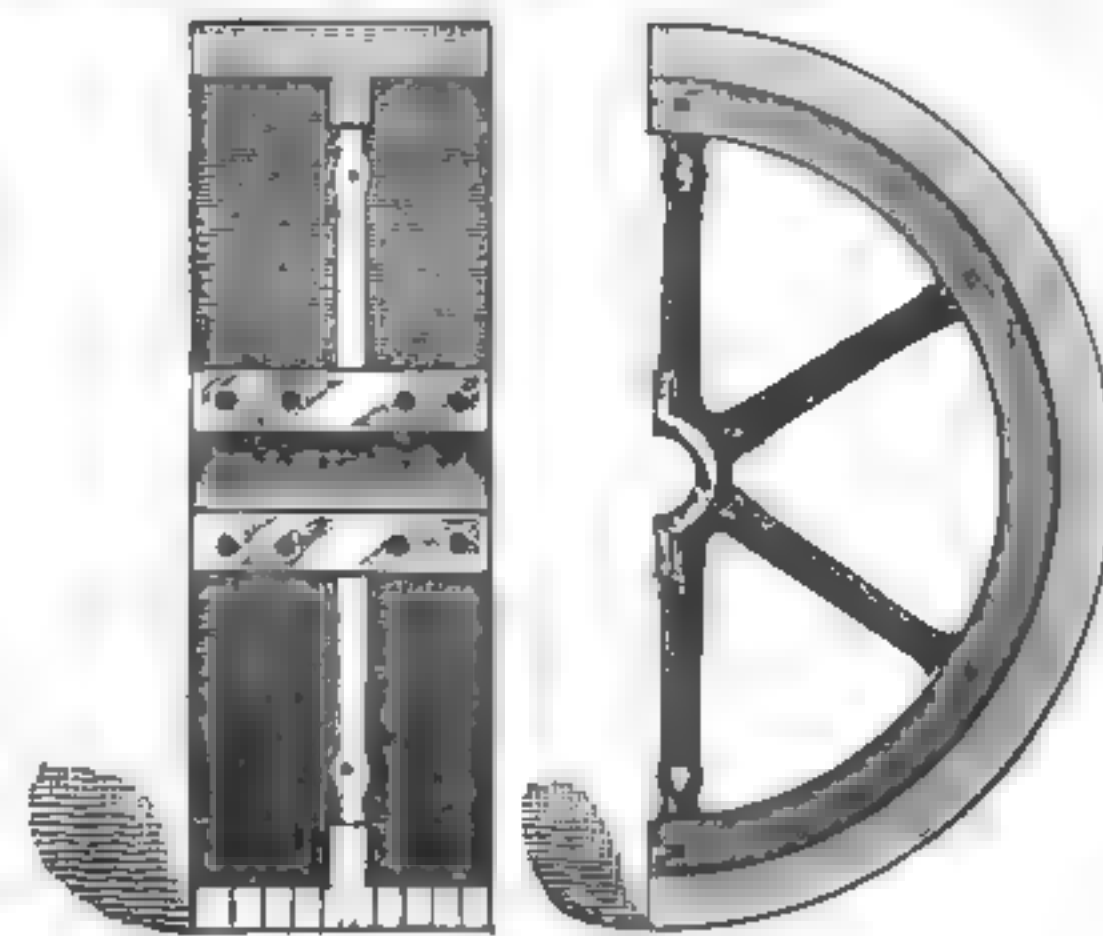
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**The Best Pulley on Earth!**

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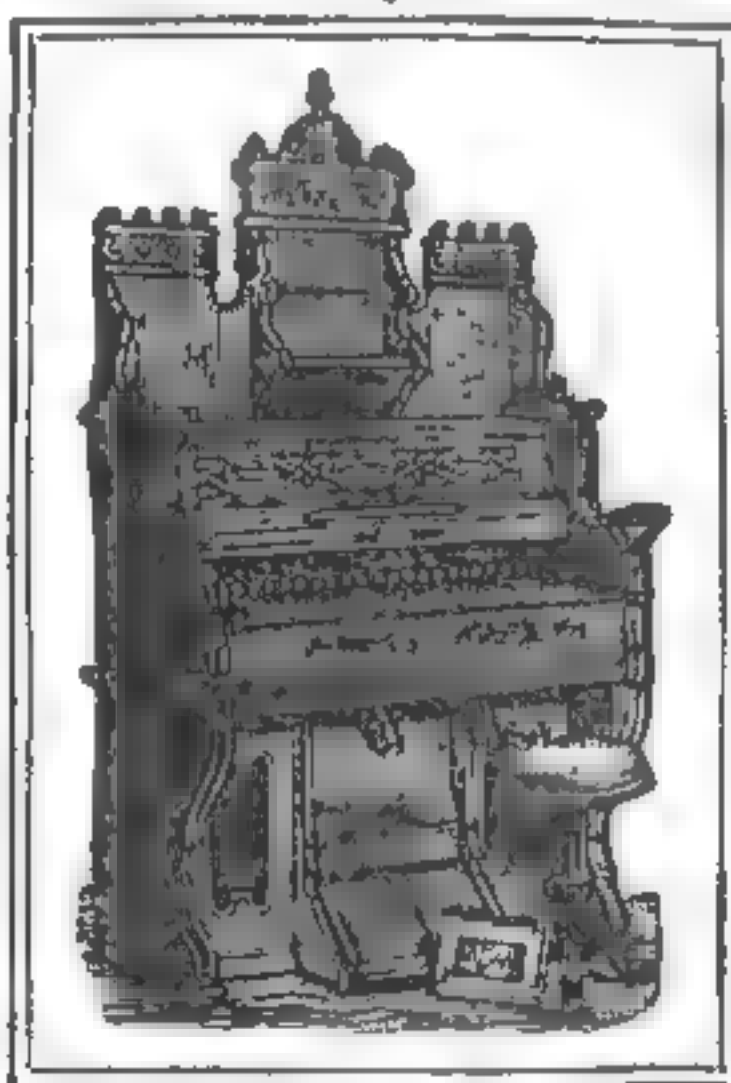
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*is allus a-makin' change, a-  
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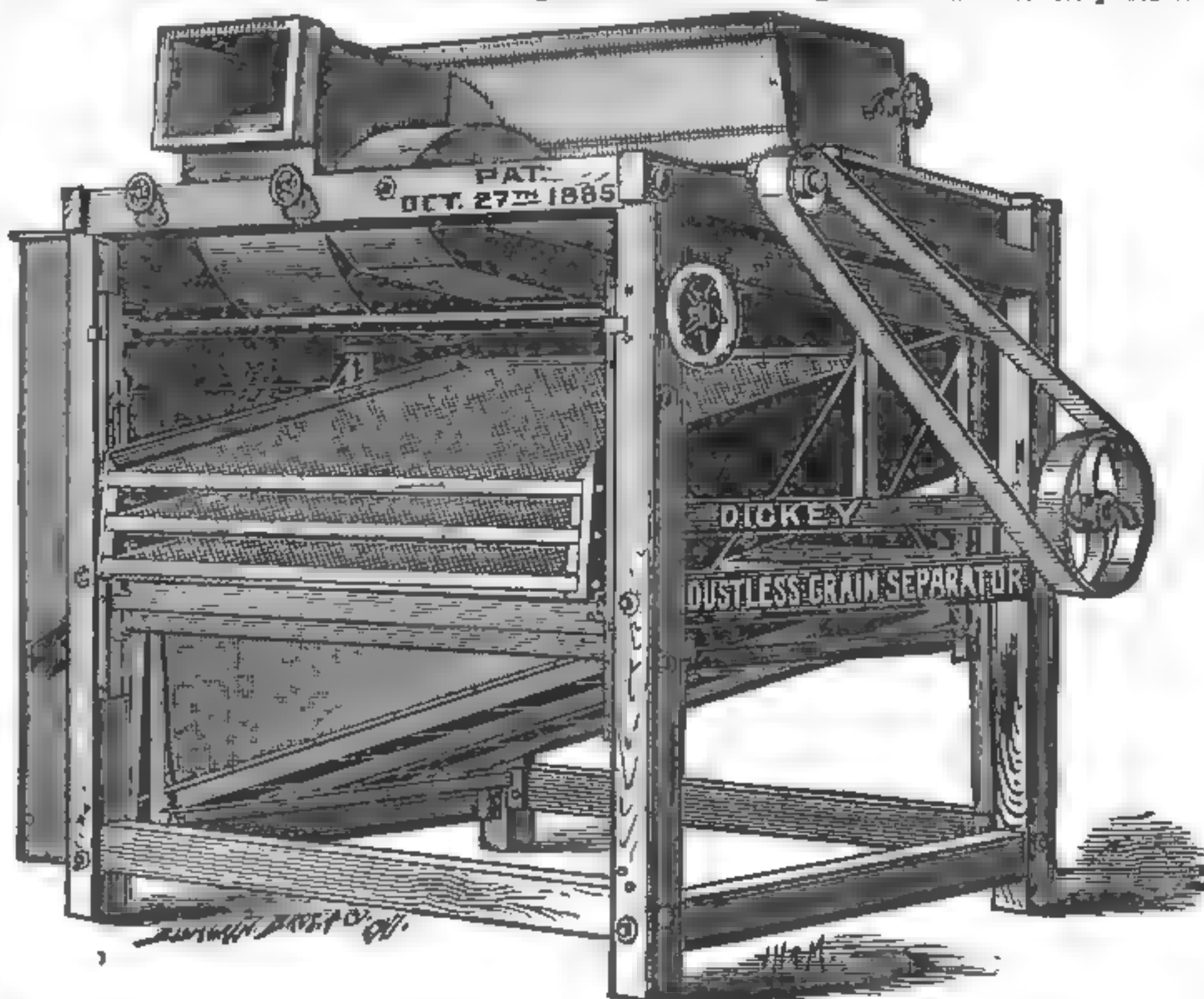
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This Separator is our latest and most perfect, and guaranteed to be the superior of any now on the market. This machine, as can be seen by the cut, is not a warehouse fanning mill with one patent attachment, but is Dustless Separator, made for the express purpose of thoroughly cleaning and separating all kinds of grain in large quantities; its construction is such that the working machinery and weight is all within the parts or anchors.

WE CLAIM FOR IT SUPERIORITY.



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We claim for it Superiority over everything of the kind made, in simpleness, durability, saving of power, capacity and cost of construction. Its height will accommodate any number of spouts from different points, without moving machine. They have a capacity from 700 to 1,500 bushels per hour. We also control exclusively the manufacture of the celebrated Dickey Giant, End and Side Shake, Warehouse Mills, that have attained such a world-wide reputation. Sent on approval to any reliable party. For full particulars address,

**A. P. DICKEY MANUFACTURING CO.,** Successors to Dickey & Pease, **RACINE, WIS.**



## EUROPEAN ECHOES.

SOUTHERN Russia has been visited by a "severe black frost," which has caused serious apprehensions among winter-wheat growers in that country.

EUROPEAN reports from Valparaiso, Chili, indicate that a severe drouth has prevailed in that country, and that the wheat crop will again be short in quantity and poor in quality.

THE Liverpool grain trade for the past week has been at a dead stand-still in consequence of a strike by 500 grain-porters employed on the north and south docks. The strikers want more pay.

BUDAPEST mills have again raised their prices on flour for exportation. They are finding it harder and harder to secure good wheat for milling, and the prices of grain in Austria-Hungary are constantly advancing.

AUSTRALIAN reports appear to agree that the wheat crop in Australia, while promising a small surplus, probably 5,000,000 or 6,000,000 bushels, for export, is not good in quality. Rust has been very prevalent and has lowered the grade of the grain.

### THE IOWA MILLERS IN COUNCIL.

Owing to the severe storms sweeping over the West, there was a reduced attendance at the sixteenth annual meeting of the Iowa Millers' Association, which was held at Des Moines, Iowa, on the 15th of January. As it was, in spite of the storms, there were 30 members of the association present when President E. A. Consigny called the meeting to order. The meeting was held under arrangements made at the session of June, 1889, and it was an interesting one in every way. The minutes of the last meeting were read and approved. The matter of inducing farmers to raise a better variety of good milling wheat was discussed by several of the millers. Mr. Mitchell, of Guthrie Center, stated that he purchased a car of good winter wheat to put out among his farmers for seed, but he failed to induce the farmers to try again to raise winter wheat. He succeeded in getting one farmer to plant some, and the farmer reports an excellent stand of wheat from it.

Mr. Wessle, of Belle Plaine, stated that he purchased a car of hard spring wheat to put out in his county for seed, but was unable to have the farmers try it very generally for the same reason that Mr. Mitchell gave. In other sections the drought was unfavorable and farmers were a little reluctant about trying wheat. Mr. Illingsworth, of Waterloo, stated that the drought of the past two years had prevented many farmers in his section from planting wheat, they having gone into the dairy and cattle business. Geo. S. Black, of Wilton, stated that the farmers of Muscatine county were raising considerable winter wheat, it having been brought into the county by a farmer who has a farm further north. One farmer had 1,300 bushels of this wheat and every bushel of it he sold to his neighbors for seed, so that in this section they will have much good wheat, which brings from 10 to 25 cents per bushel more than the poor varieties of spring wheat bring. Mr. Birchard, of Nebraska, stated that most sections of his state had a very good crop of the blue-stem variety of wheat. Mr. Consigny suggested that a committee be appointed to draw up an article to the farmers to induce them to resume the raising of a good wheat, suitable for milling purposes.

It was moved and carried that a committee of three be appointed to draft such resolutions, with President Consigny as chairman, this paper, or resolution, to be handed to the papers for publication. The committee was named, consisting of Messrs. Jones and Nichols. The minutes of the July meeting were read and approved. The question of whether or not the millers who use the old system experience difficulty in competing with the roller mills was discussed to some extent. The present officers of the association were re-elected: President, E. A. Consigny, Avoca; vice-president, John Morrison, Hedrick; secretary and treasurer, J. G. Sharp, Des Moines. The meeting then adjourned.

The fifteenth annual meeting of the Mill Owners' Mutual Fire Insurance Company was then held, there being about twenty policy holders present. President Abner Graves, of Dow City, presided. The report of the secretary, J. G. Sharp, was read, accepted and placed on file. The report of Treasurer Worthington was read and approved. President Graves read his report. The election resulted in the selection of James Tagert, Abner Graves and H. C. Murphy, and a finance committee consisting of H. D. St. John, Jed Lake and H. J. Benson was selected. The finance committee went to work to examine the accounts of the company, and a directors' meeting was held. Abner Graves was elected president, H. C. Murphy vice-president, J. G. Sharp secretary, and C. B. Worthington treasurer. An executive committee was elected, consisting of H. C. Murphy and E. A. Consigny.

### POINTS IN MILLING.

THOSE architects and millers, who have objected to what I have said about slate as a roofing material, would find a good deal to interest and instruct them concerning slate roofs if they could go with me over the region swept by the heavy winds of January 13 and 14. I have had not much confidence in slate for years, and since those gales I have still less. All that can be said against slate in the case of fire may be said against it in the case of wind.

WIND plays havoc with slate roofs. In one town I saw a slate-roofed factory between a shingle-roofed mill and a tin-roofed building. All three roofs were of the same general shape, slope and size, and all were equally exposed to the cyclonic gales. The tin roof was rolled up like a scroll and was broken so badly as to be absolutely worthless. The slate roof was simply "scalped." The wind had not left a single unbroken slate on two-thirds of the roof. The roof was simply ruined. The shingle roof came through the gale in the best shape, losing only two or three shingles and keeping the mill well protected from rain.

ARCHITECTS may object to my theory that there are better roofing materials than slate, but they can not get around the fact that in high winds and fire exposures slate always shows its unfitness in a most disagreeable way. Of course, shingles will rot and tin will rust, while slate will neither rust nor rot, but slate is exceedingly brittle and is easily damaged by wind and by bricks falling from the chimneys, while shingles are comparatively unharmed from those two causes. In the late gale I saw a brick fall about seven feet, from the top of a chimney to a slate roof, and it smashed a large number of slates and sent them in a shower to the ground. The same brick would simply dent a shingle roof and slide off without damage to the roof.

Housewives, who have occasion to study economy, and there are millions of them, will find the first of "Three Chapters on Household Economy," in the January 18th number of *Good Housekeeping*, treating of "Economical Purchasing," the two succeeding papers of the series to consider the equally important point of "Family Sewing" and "Family Mending." This will be an excellent series of papers. The same number has a very interesting paper from Maria Parloa on "Stuffy Houses," giving suggestions for doing away with such untidy, unhealthy and unchristian places to live in, and what to do with the rubbish that the tides of time throw up into every household.

### CATARRH

#### CATARRHAL DEAFNESS—HAY FEVER.

##### A NEW HOME TREATMENT.

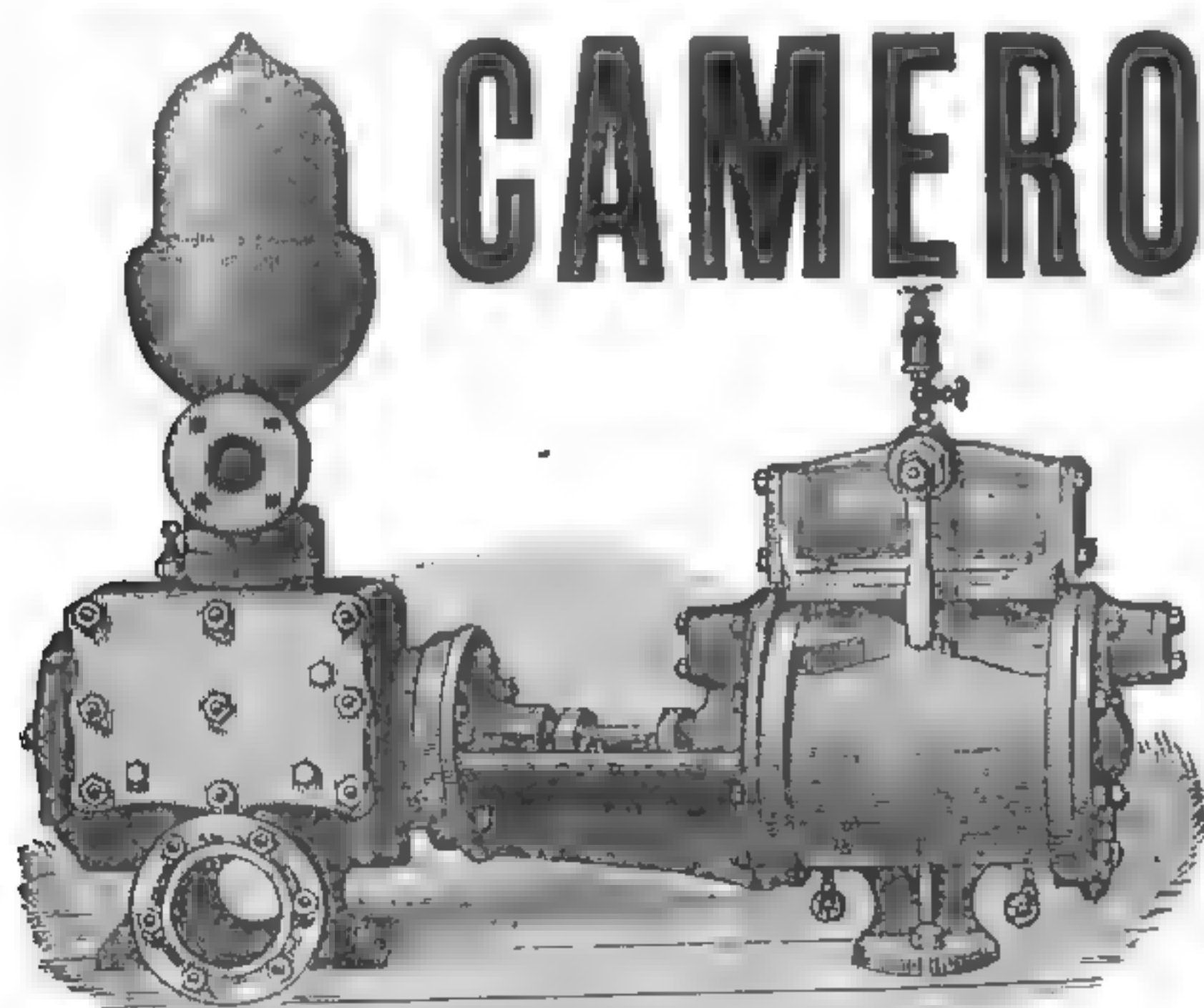
Sufferers are not generally aware that these diseases are contagious, or that they are due to the presence of living parasites in the lining membrane of the nose and eustachian tubes. Microscopic research, however, has proved this to be a fact, and the result of this discovery is that a simple remedy has been formulated whereby catarrh, catarrhal deafness and hay fever are permanently cured in from one to three simple applications made at home by the patient once in two weeks.

N. B.—This treatment is not a snuff or an ointment; both have been discarded by reputable physicians as injurious. A pamphlet explaining this new treatment is sent free on receipt of stamp to pay postage, by A. H. Dixon & Son, 337 and 339 West King street, Toronto, Canada.—*Christian Advocate*.

Sufferers from Catarrhal troubles should carefully read the above.



<p><b>COMPOUND</b> Condensing or Non-Condensing. 18 SIZES, 5 to 500 H. P. Not yet equaled by any form of Engine for <b>HIGH FUEL DUTY AND SIMPLICITY.</b></p> <p><b>STANDARD</b> 13 Sizes in Stock. 5 to 250 H. P. 3000 in use in all parts of the Civilized World.</p> <p><b>JUNIOR</b> 6 Sizes in Stock, 5 to 50 H. P. An Automatic Engine cheaper than a Slide Valve. WELL BUILT. ECONOMICAL. RELIABLE. Over 300 Sold the First Year.</p> <p>All the above built strictly to Gauge with INTERCHANGEABLE PARTS. REPAIRS CARRIED IN STOCK. SEND FOR ILLUSTRATED CATALOGUES.</p>	<p><b>WESTINGHOUSE</b> <b>ENGINES</b> The Westinghouse Machine Co. PITTSBURGH, PA. U.S.A.</p>	<p><b>SELLING DEPARTMENT IN THE UNITED STATES.</b></p> <table border="0"> <tr> <td>New York,</td> <td>17 Cortlandt St.</td> <td rowspan="3">Westinghouse, Church, Kerr &amp; Co.</td> </tr> <tr> <td>Boston,</td> <td>Hathaway Building,</td> </tr> <tr> <td>Pittsburgh,</td> <td>Westinghouse Build'g,</td> </tr> <tr> <td>Chicago,</td> <td>156, 158 Lake St.</td> <td></td> </tr> <tr> <td>Philadelphia,</td> <td>608 Chestnut St. M. R. Muckle, Jr. &amp; Co.</td> <td></td> </tr> <tr> <td>St. Louis,</td> <td>302, 304 Washington Av.</td> <td rowspan="3">Fairbanks &amp; Co.</td> </tr> <tr> <td>Kansas City,</td> <td>312 Union Avenue,</td> </tr> <tr> <td>Denver,</td> <td>1330 Seventeenth St.</td> </tr> <tr> <td>Omaha,</td> <td>1619 Capitol Avenue, Y. C. Ayer.</td> <td></td> </tr> <tr> <td>Pine Bluffs, Ark.</td> <td>Geo. M. Dingley &amp; Sons.</td> <td></td> </tr> <tr> <td>Salt Lake City,</td> <td>259 S. Main St.</td> <td>Utah &amp; Montana</td> </tr> <tr> <td>Butte, Mont.</td> <td>Granite St.</td> <td>Machinery Co.</td> </tr> <tr> <td>San Francisco,</td> <td>21, 23 Fremont Street,</td> <td>Parke &amp; Lacy Co.</td> </tr> <tr> <td>Portland, Or.</td> <td>33, 35 N. Front St.</td> <td>Parke &amp; Lacy Mch. Co.</td> </tr> <tr> <td>Charlotte, N. C.</td> <td>36 College St.</td> <td rowspan="2">The D. A. Tompkins Co.</td> </tr> <tr> <td>Atlanta, Ga.</td> <td>45 S. Prior St.</td> </tr> <tr> <td>Dallas, Tex.</td> <td>Keating Imp. &amp; Machine Co.</td> <td></td> </tr> <tr> <td>Chattanooga, Tenn.</td> <td>C. E. James &amp; Co.</td> <td></td> </tr> </table>	New York,	17 Cortlandt St.	Westinghouse, Church, Kerr & Co.	Boston,	Hathaway Building,	Pittsburgh,	Westinghouse Build'g,	Chicago,	156, 158 Lake St.		Philadelphia,	608 Chestnut St. M. R. Muckle, Jr. & Co.		St. Louis,	302, 304 Washington Av.	Fairbanks & Co.	Kansas City,	312 Union Avenue,	Denver,	1330 Seventeenth St.	Omaha,	1619 Capitol Avenue, Y. C. Ayer.		Pine Bluffs, Ark.	Geo. M. Dingley & Sons.		Salt Lake City,	259 S. Main St.	Utah & Montana	Butte, Mont.	Granite St.	Machinery Co.	San Francisco,	21, 23 Fremont Street,	Parke & Lacy Co.	Portland, Or.	33, 35 N. Front St.	Parke & Lacy Mch. Co.	Charlotte, N. C.	36 College St.	The D. A. Tompkins Co.	Atlanta, Ga.	45 S. Prior St.	Dallas, Tex.	Keating Imp. & Machine Co.		Chattanooga, Tenn.	C. E. James & Co.	
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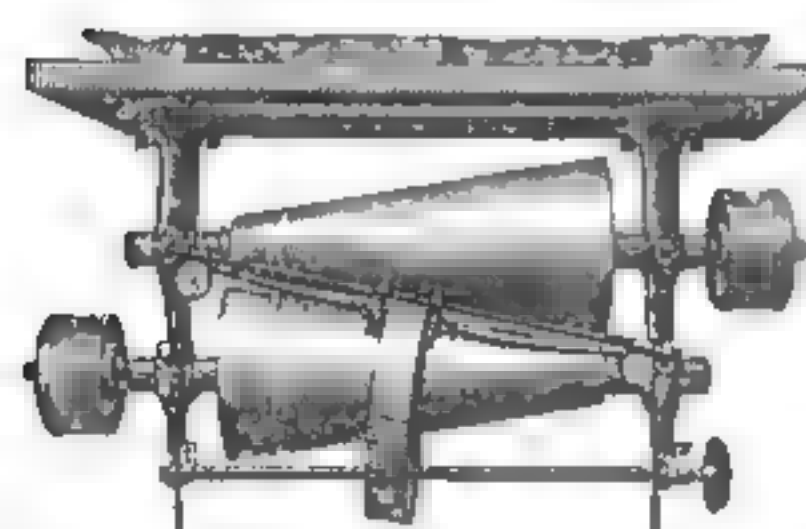
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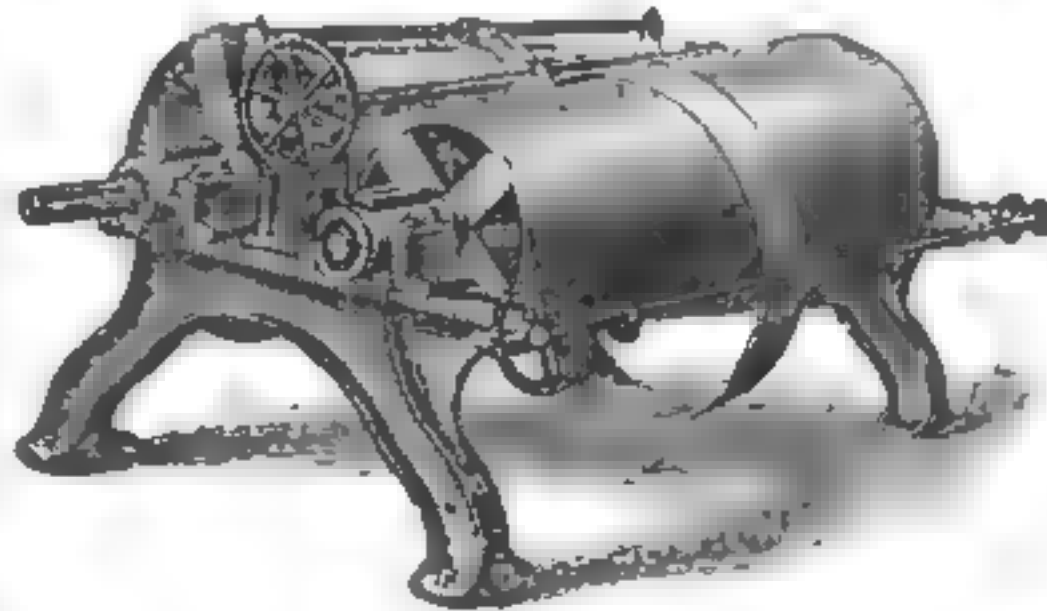
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This cut represents a set of hanging cone pulleys. This pattern is intended for that class of machinery that stops and starts at the same speed, and at the same time be able to change the speed more or less while running. These cones are also fitted with a governor where a steady motion is required and the initial power is fluctuating. All sizes made from 1/2 Horse Power to 50 Horse Power. SEND FOR ILLUSTRATED CATALOGUE.



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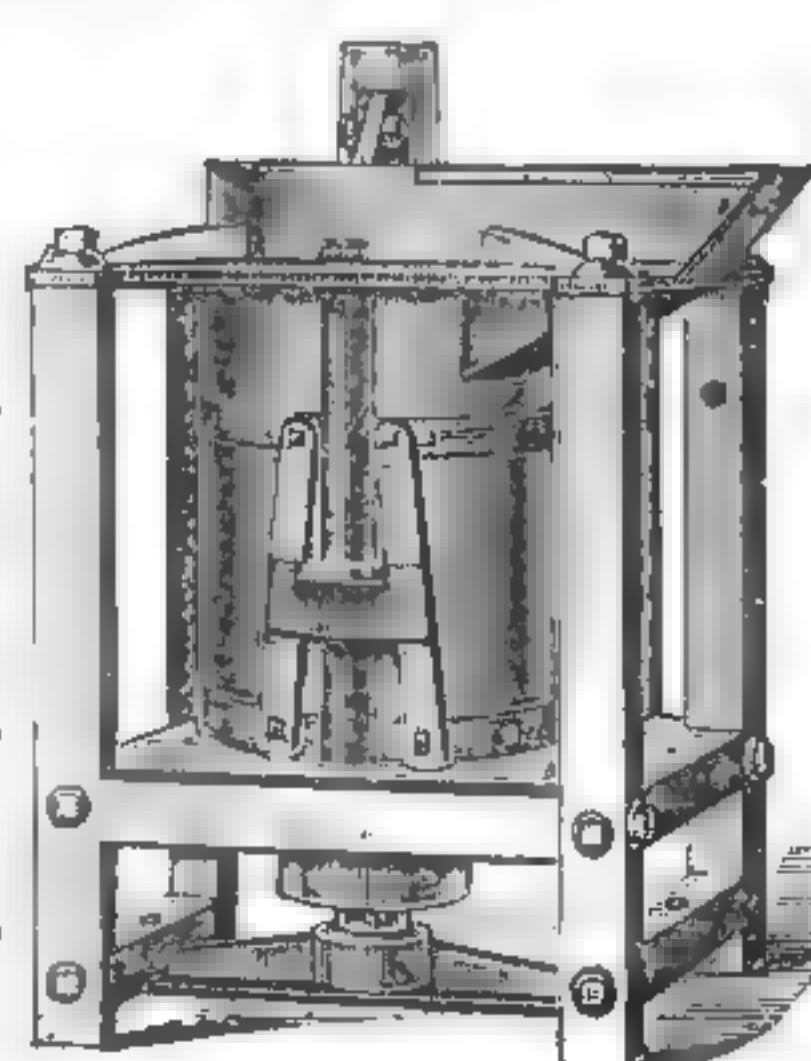
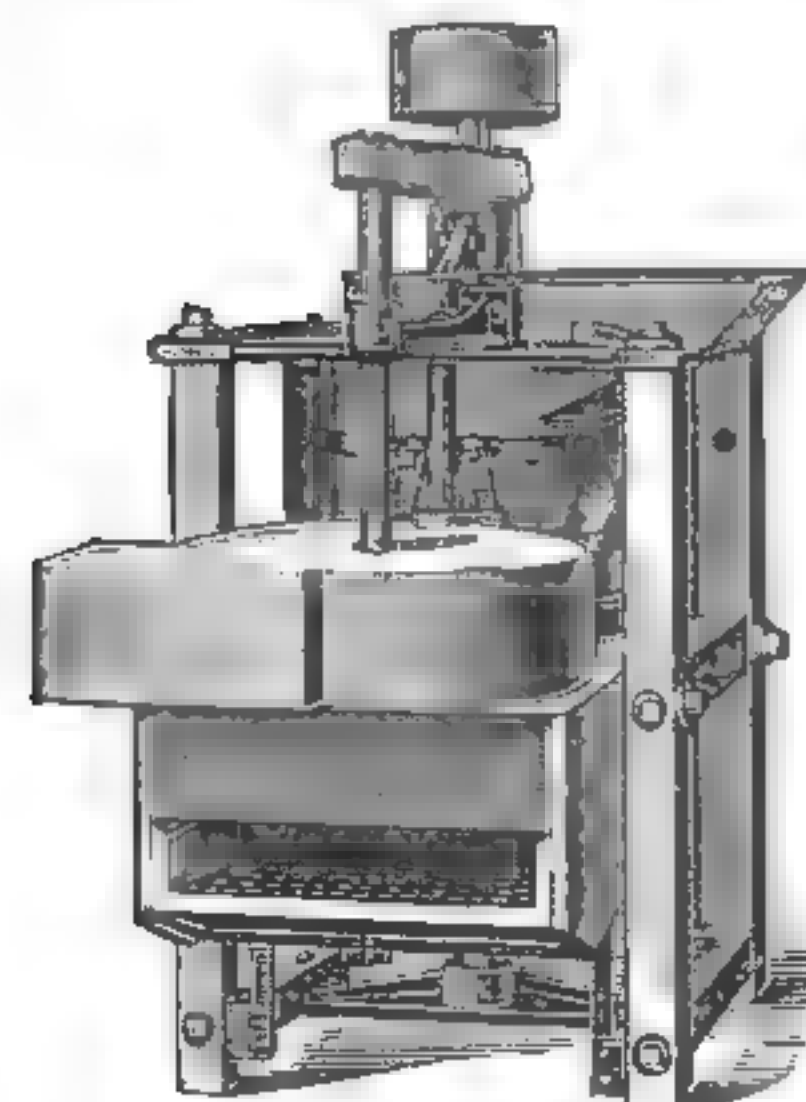
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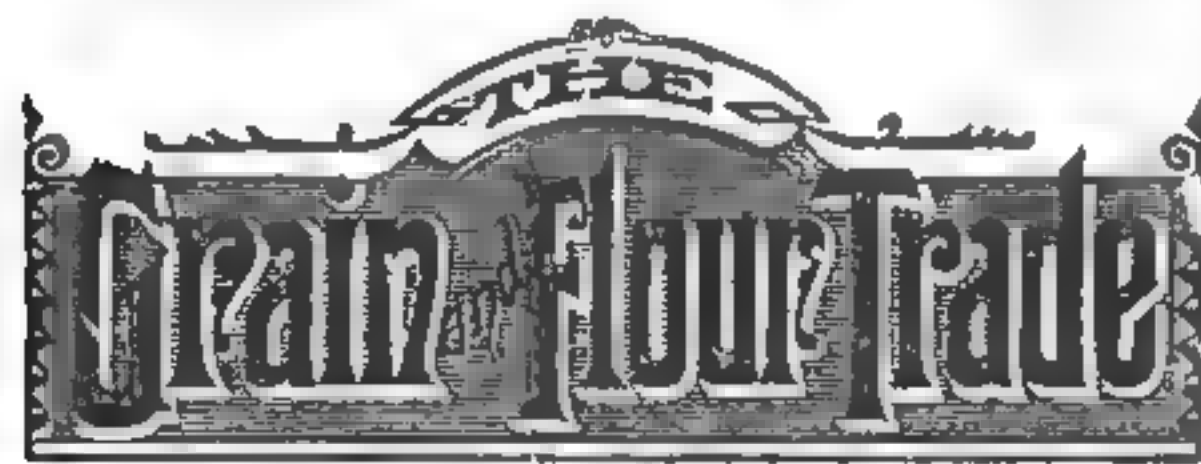
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OFFICE OF THE MILLING WORLD,  
BUFFALO, N. Y., Jan. 25, 1890.

Friday of last week was a day of dull, weak and lower markets. January wheat closed at 86½c., with Atlantic port receipts 39,679, exports 3,600, and options 1,600,000 bushels. January corn closed at 37½c., with receipts 310,450, exports 210,978, and options 2,352,000 bushels. January oats closed at 29c., with receipts 41,553, exports 19,431, and options 170,000 bushels. Wheat flour was dull and unchanged. Receipts were 14,052 sacks and 35,265 barrels, and exports 2,095 sacks and 1,573 barrels. The other lines were featureless.

Saturday was a day of dull, depressed and featureless markets. January wheat closed at 86¼c., with receipts 16,855, exports 17,956, and options 1,100,000 bushels. January corn closed at 37½c., with receipts 200,885, exports 267,692, and options 1,180,000 bushels. January oats closed at 29c., with receipts 113,730, exports 53,394, and options 140,000 bushels. Wheat flour was characterized as dullest of the dull on "the dullest day of the dullest week of the dullest month on this crop year." Receipts were 6,236 sacks and 16,267 barrels, and exports 16,479 sacks and 2,918 barrels. Other lines were unchanged.

Monday brought even lower and more depressed markets. Every line but oats was in light demand. January wheat closed at 85½c., with receipts 31,065, exports 72,198, and options 1,250,000 bushels. January corn closed at 37½c., with receipts 604,290, exports 349,682, and options 2,136,000 bushels. January oats closed at 29½c., with receipts 153,881, exports 19,077, and options 150,000 bushels. Wheat flour was "sick," on small demand, large stocks accumulating and no immediate prospect of better things. Receipts were 8,997 sacks and 8,224 barrels, and exports 5,043 sacks and 6,780 barrels. The other lines were featureless. The visible supply in the United States and Canada was as follows:

	1890. Jan. 18.	1889. Jan. 19.	1888. Jan. 21.
Wheat.....	32,540,631	36,595,870	42,361,250
Corn.....	11,215,867	13,234,699	6,677,034
Oats.....	5,939,356	8,395,027	5,590,349
Rye.....	1,329,503	1,634,261	381,015
Barley.....	2,189,029	2,364,214	2,994,916

Tuesday brought dull and generally easy markets. January wheat closed at 86c., with receipts 30,427, exports 4,114, and options 2,040,000 bushels. The English wheat visible showed 50,000 decrease. January corn closed at 37½c., with receipts 527,461, exports 411,089, and options 1,440,000 bushels. January oats closed at 29½c., with receipts 152,402, exports 103,970, and options 250,000 bushels. Wheat flour was dead, each buyer buying only for the moment, and each holder holding simply because he could find no one who cared to induce him to let go. Receipts were 13,805 sacks and 30,032 barrels, and exports 11,937 sacks and 17,971 barrels. The other lines were featureless.

The following shows the amount of wheat and flour, together with the amount of corn on passage to United Kingdom, for ports of call or direct ports for the weeks mentioned:

	1890. Jan. 21.	1889. Jan. 22.
Wheat and flour, qrs....	2,094,000	2,470,000
Corn, qrs.....	425,000	307,000

The following shows the amount of wheat and corn on passage to the Continent for the past week and for the same week last year:

	1890. Jan. 21.	1889. Jan. 22.
Wheat, qrs.....	371,000	377,000
Corn, qrs.....	277,000	106,000

The imports into the United Kingdom for the

past week and for the same weeks in previous years were as follows:

	1890. Jan. 21.	1889. Jan. 22.	1888. Jan. 24.
Wheat, qrs.....	173,000	162,000	318,000
Corn, qrs.....	110,000	150,000	125,000
Flour, bbls.....	204,000	180,000	157,000

Wednesday brought somewhat stronger markets on cold weather in the West, floods in California and heavy buying by Hutchinson in Chicago and by shorts generally. January wheat closed at 86½c., with receipts 31,232, exports 32,990, and options 2,500,000 bushels. January corn closed at 37½c., with receipts 573,440, exports 93,013, and options 1,408,000 bushels. January oats closed at 29½c., with receipts 138,256, exports 15,224, and options 450,000 bushels. Buckwheat grain was unsalable at 30@33c. Rye grain was held steadily at the following figures: No. 2 Western 57@59c delivered and 55@56c on track; No. 1 State 59@60c delivered 56@57c on track; ungraded 58@59c delivered, 54@55c on track. Barley was firmly held at the late improvement and buyers were not so anxious to pay the prices. Quotations: Two-rowed State 52@53c; six-rowed do 55@58c; extra No. 2 Canada 63@64c; No. 2 do 60@61c; ungraded do 60@70c; Western 50@56c. Malt was strongly held, but slow. Quotations: Canada country-made 75@80c; city 80@90c; six-rowed 65@70c; Western 60@85c. Mill feed was in better demand and firmer at old prices. Sales of lots of 2,000 sacks at 60@62c for 40, 60 and 80-lb, 70@75c for 100-lb and 80@85c for sharps. Quotations: 40, 50 and 80-lb 60@62½c; 100-lb 70@75c; sharps 80@82½c; rye 65@67½c.

Wheat flour was as dull as ever, with receipts 14,018 sacks and 36,000 barrels, and exports 16,187 sacks and 10,427 barrels. The quotations were:

SPRING FLOUR.		
	Sacks.	Barrels.
No grade.....	\$1.25@1.40	\$....@....
Fine.....	1.40@1.70	1.60@2.00
Superfine.....	1.75@2.10	2.05@2.30
Extra No. 2....	2.15@2.50	2.40@2.85
Extra No. 1.....	2.85@3.10	3.10@3.65
Clear.....	3.00@3.25	3.25@3.55
Straight.....	3.75@4.15	4.00@4.60
Patent.....	4.35@4.65	4.60@5.05

WINTER FLOUR.		
	Sacks.	Barrels.
No grade.....	\$1.35@1.70	\$....@....
Fine.....	1.55@1.90	1.85@2.15
Superfine.....	1.85@2.15	2.00@2.40
Extra No. 2.....	2.25@2.70	2.55@2.90
Extra No. 1.....	2.75@3.40	2.85@3.65
Clear.....	3.10@3.50	3.40@3.90
Straight.....	3.65@3.90	4.05@4.40
Patent.....	3.95@4.20	4.35@4.80

CITY MILLS.		
	Sacks.	Barrels.
W. I. grades.....		4.20@4.35
Low grades.....		2.30@2.40
Patents.....		4.65@5.20

Buckwheat flour was firmer on colder weather at \$1.50 for the best. Rye flour was quiet and easy at \$3@3.20. Corn products were steadier at the following quotations: Coarse meal 74@77c; fine yellow 90@93c; fine white 90@95c for old stock, new 5c less; Brandywine \$2.65; Western and Southern \$2.50@2.50; 600 bbls Sagamore sold at \$2.65, 300 bags fine yellow at \$1.05.

Thursday brought little change in the market conditions. January wheat closed at 86½c., with receipts 14,850, spot sales 66,000, and options 2,264,000 bushels. January corn closed at 38c., with receipts 134,400, exports 21,853, spot sales 193,000, and options 2,088,000 bushels. January oats closed at 30½c., with receipts 142,000, spot sales 167,000, and options 1,155,000 bushels. Wheat flour was moderately active, with receipts 21,827 packages and sales 21,650 barrels. Prices were unchanged. The minor lines were featureless.

#### BUFFALO MARKETS.

WHEAT—No. 1 hard spring remains firm at 91c.; No. 1 Northern sold to-day at 88c., and No. 2 Northern is held at 85c., No. 2 red winter is firm at 84@84½c., extra No. 3 sold at 81c.; No. 2 white is 78½c. CORN—No. 3 corn sold to-day at 32½c., No. 3 yellow at 34c., No. 4 yellow at 32c. and the market is firm. OATS—No. 2 white oats were quoted to-day at 27½@27¾c. No. 2 mixed are quoted at 25½@26½c. RYE—Quotations are nominal at 53c. on track, but there is no trading here. BARLEY—There is no change to report. No. 1 Canada is quoted at 65c.; No. 2 do at 58@61c., and No. 3 at 52@56c., but no sales are reported at these figures. OATMEAL—Akron, \$6.00; Western, \$5.75 per bbl.; rolled oats, in cases, 72 lbs., \$3.25. CORNMEAL—Coarse, 80@85c.; fine, 85@90c.; granulated, \$1.50 per cwt. MILLFEED—City-ground coarse winter, \$11.75@12.25 per ton; fine do, \$11.00@11.50; finished winter middlings, \$13.00@14.40; coarse do, \$11.00@11.50.

The Fulton Milling Co., Wilmington, Ohio, sold out.

F. L. Herring, Finksburg, Md., remodels his flour-mill.

J. H. Sullivan's grist-mill, near Raleigh, Miss., burned.

Turner & Oate's grist-mill, Mobile, Ala., burned; loss \$4,000.

The Paris, Tenn., Roller Mill Co. lost \$9,000 worth of wheat in a recent fire.

F. Epes and others, Blackstone, Va., are building a 25-barrel roller flouring-mill.

W. W. McNutt, Kennedyville, Md., added new machinery to his flour-mill equipment.

A. A. Stone & Son, grist-mill, Southbury, Conn., are succeeded by C. A. & H. R. Stone.

J. W. Reives' flour and grist mill, Dallas, Ga., burned; loss \$25,000; no insurance; fire incendiary.

Murray's grain-elevator, York Mills, Minn., burned with contents; loss \$25,000; insurance \$10,000.

The Bosque River Milling Co., Clifton, Tex., recently organized, will build a 50-barrel flouring-mill.

J. P. Paddock & Co., millers, Evart, Mich., dissolved, each member of the firm going into business individually.

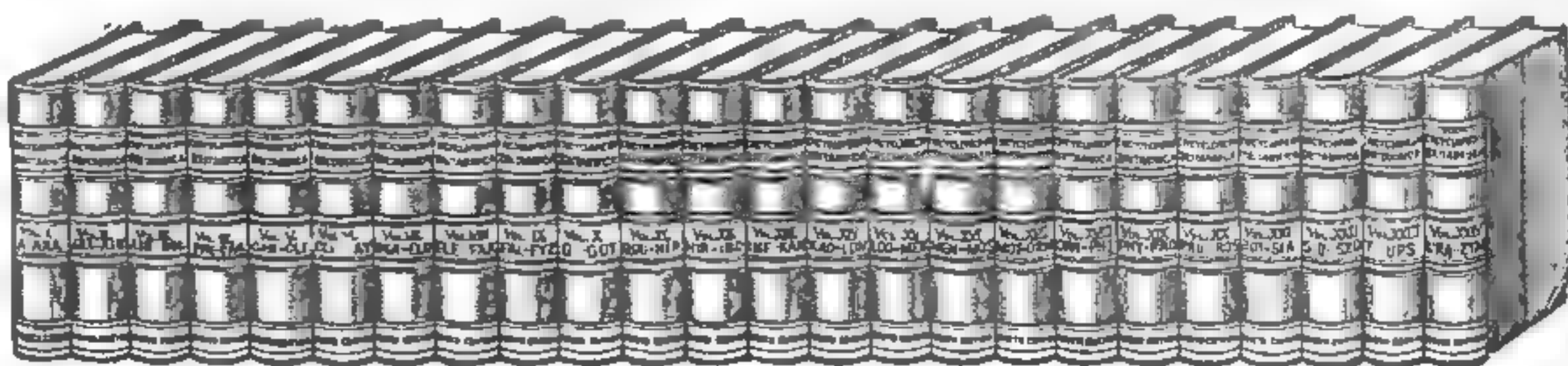
Henderson & Bricker's flouring-mill, Greenwood, Ind., burned with other property on January 11; loss \$25,000.

Howson Bros., millers, Teeswater, Ont., Can., will move their plant to Sault Ste. Marie, Ont., in case sufficient inducement is given them by that town.

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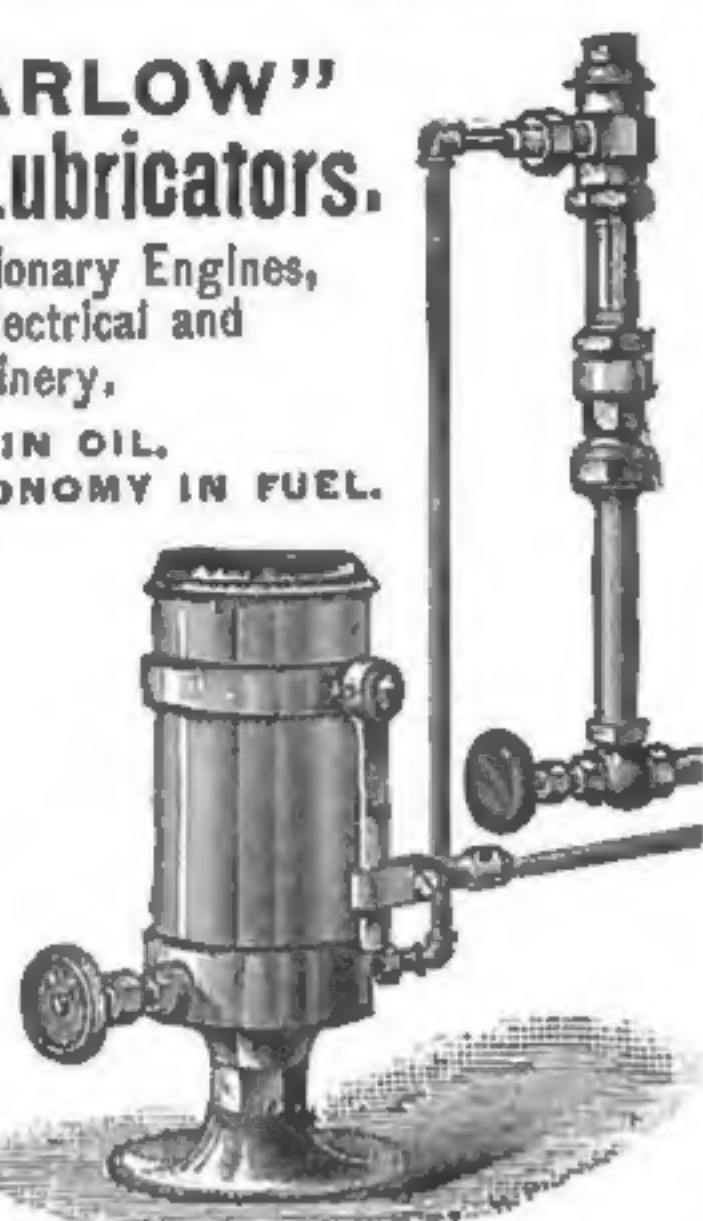
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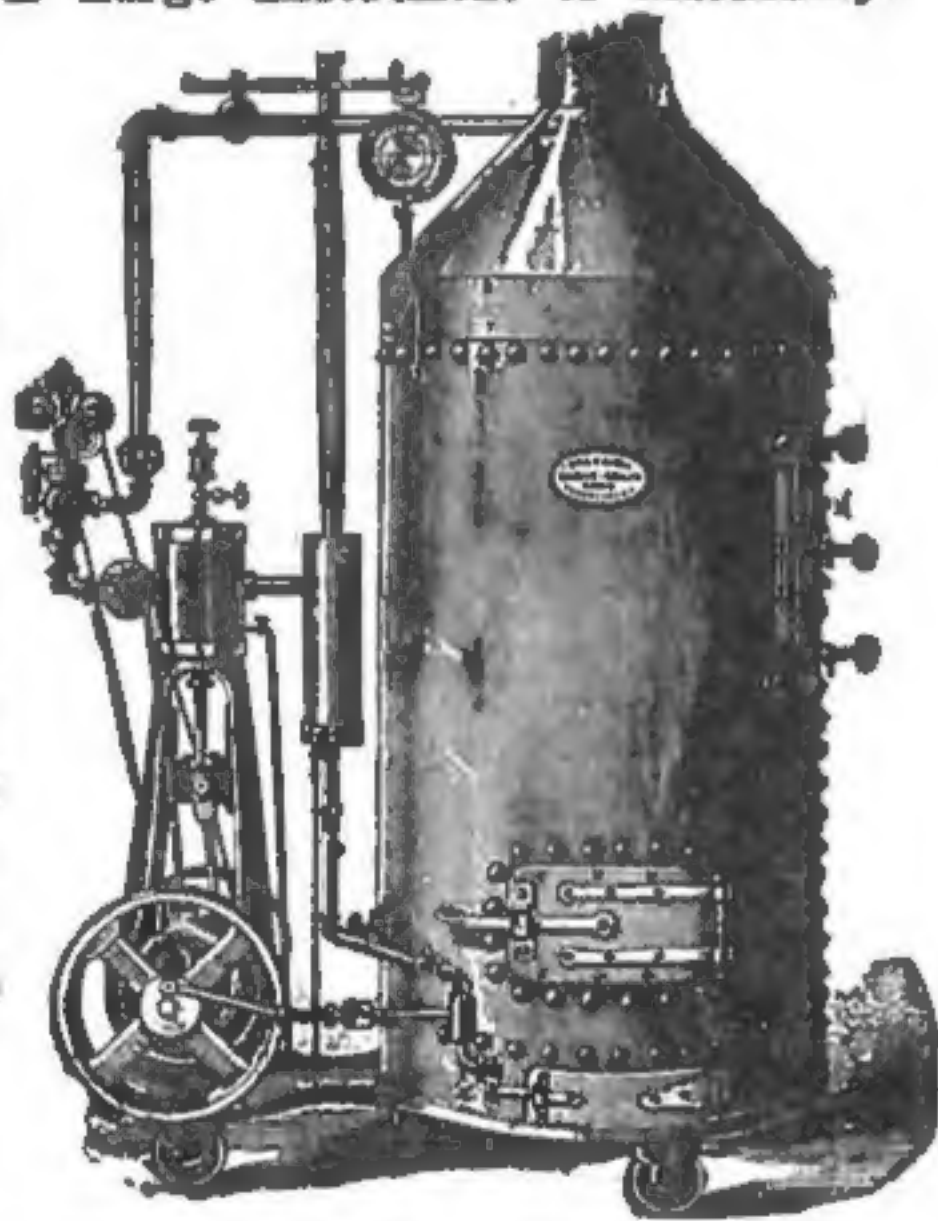
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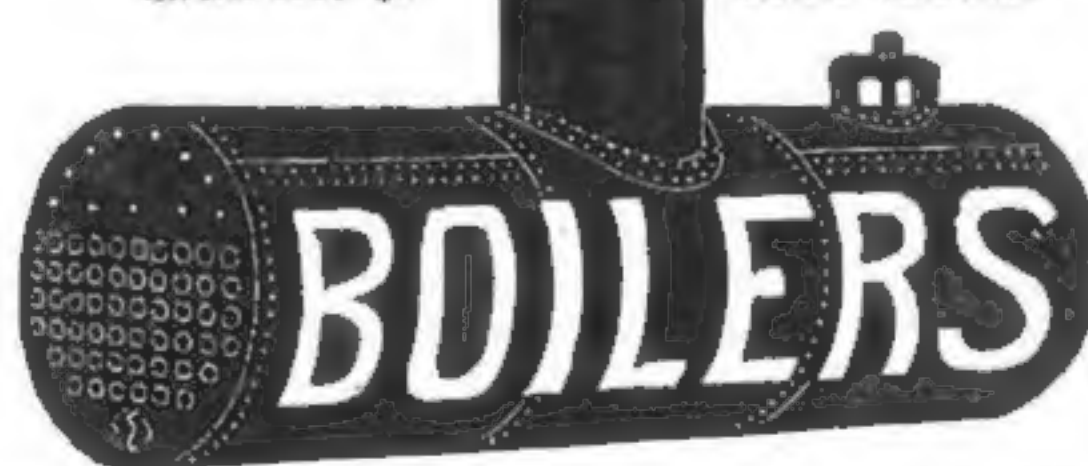
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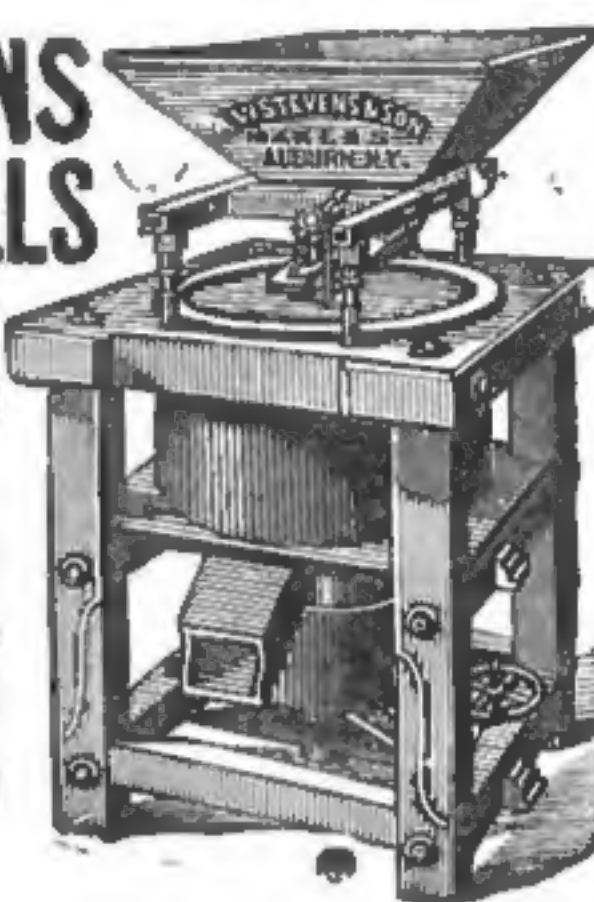
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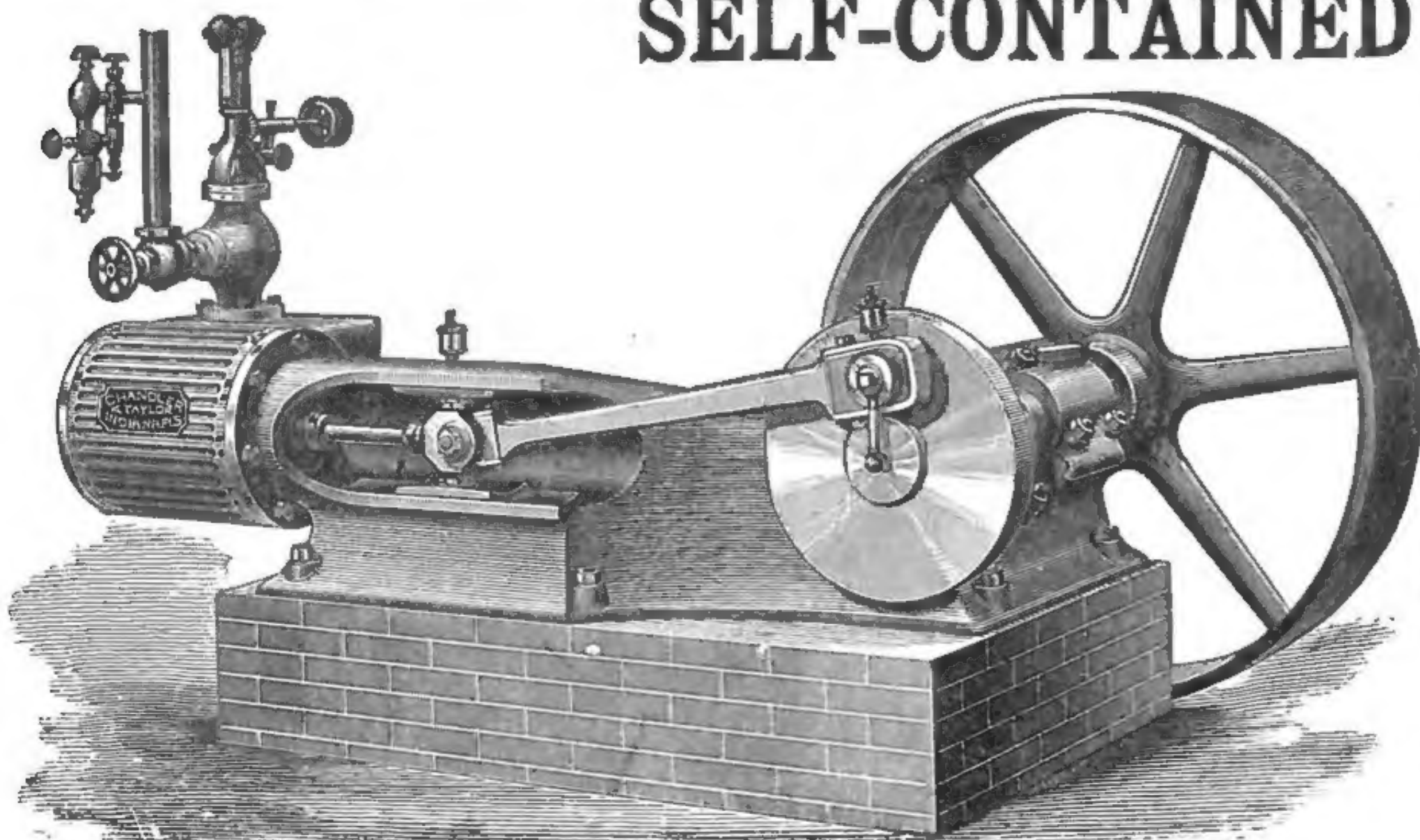
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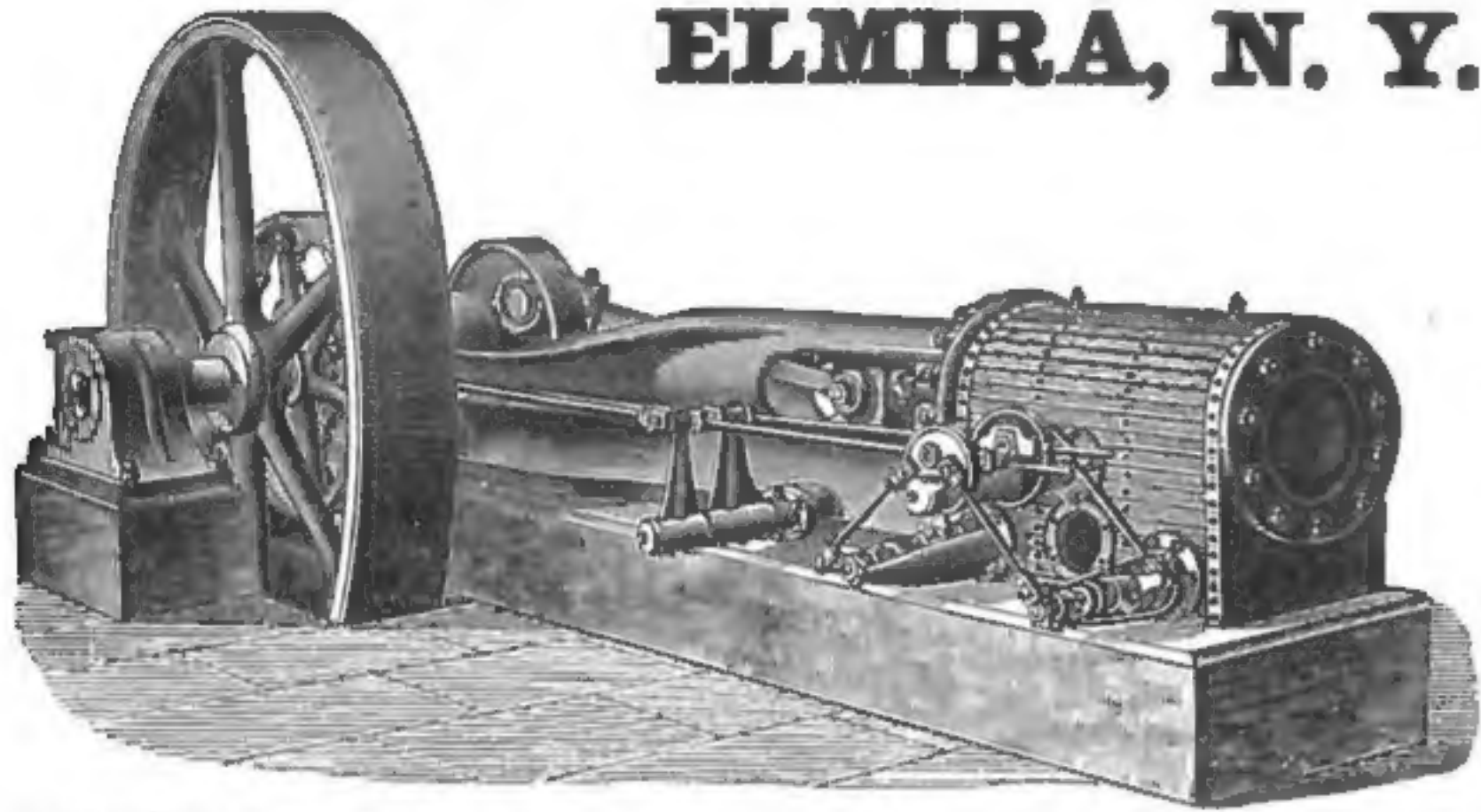


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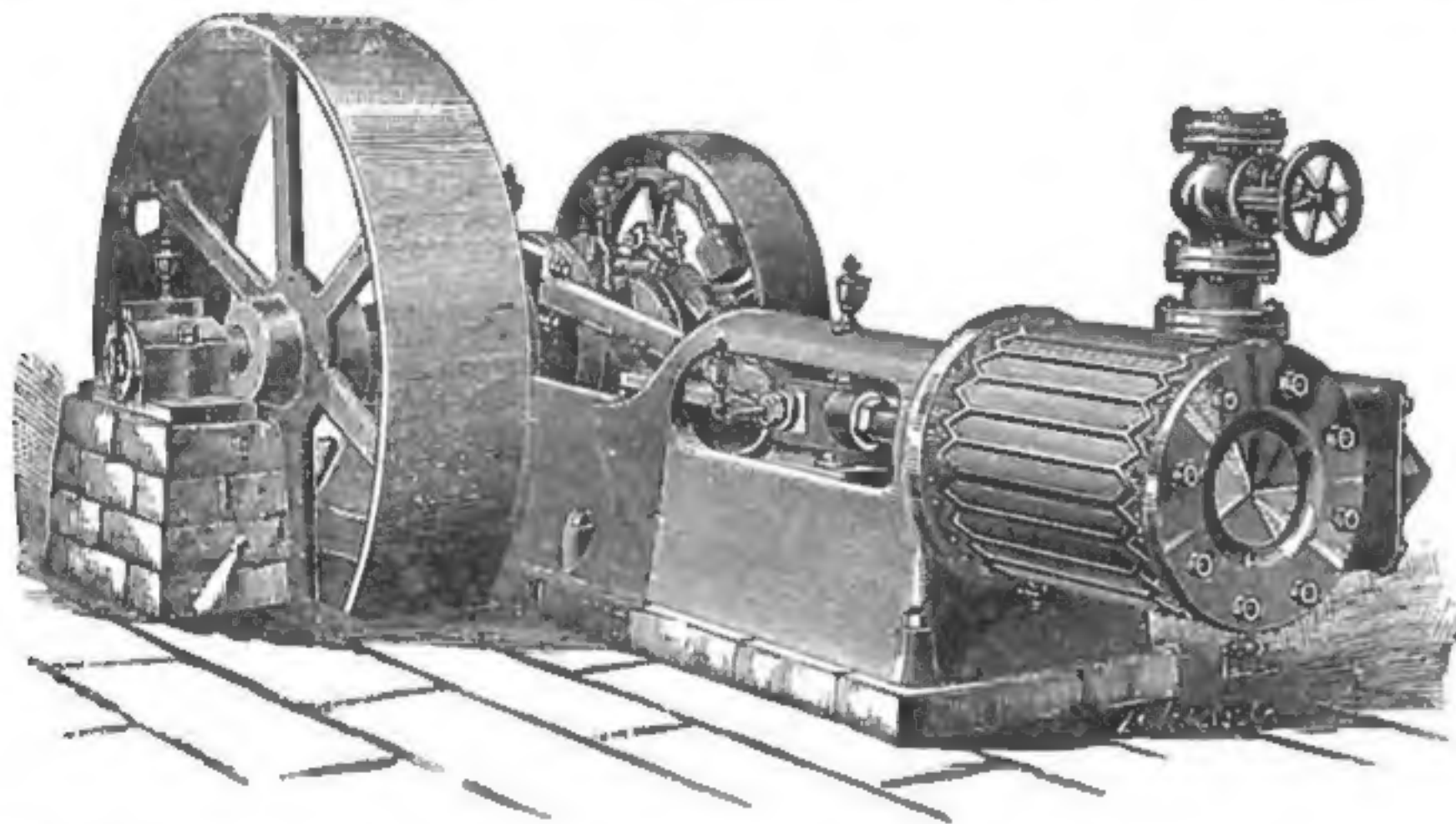
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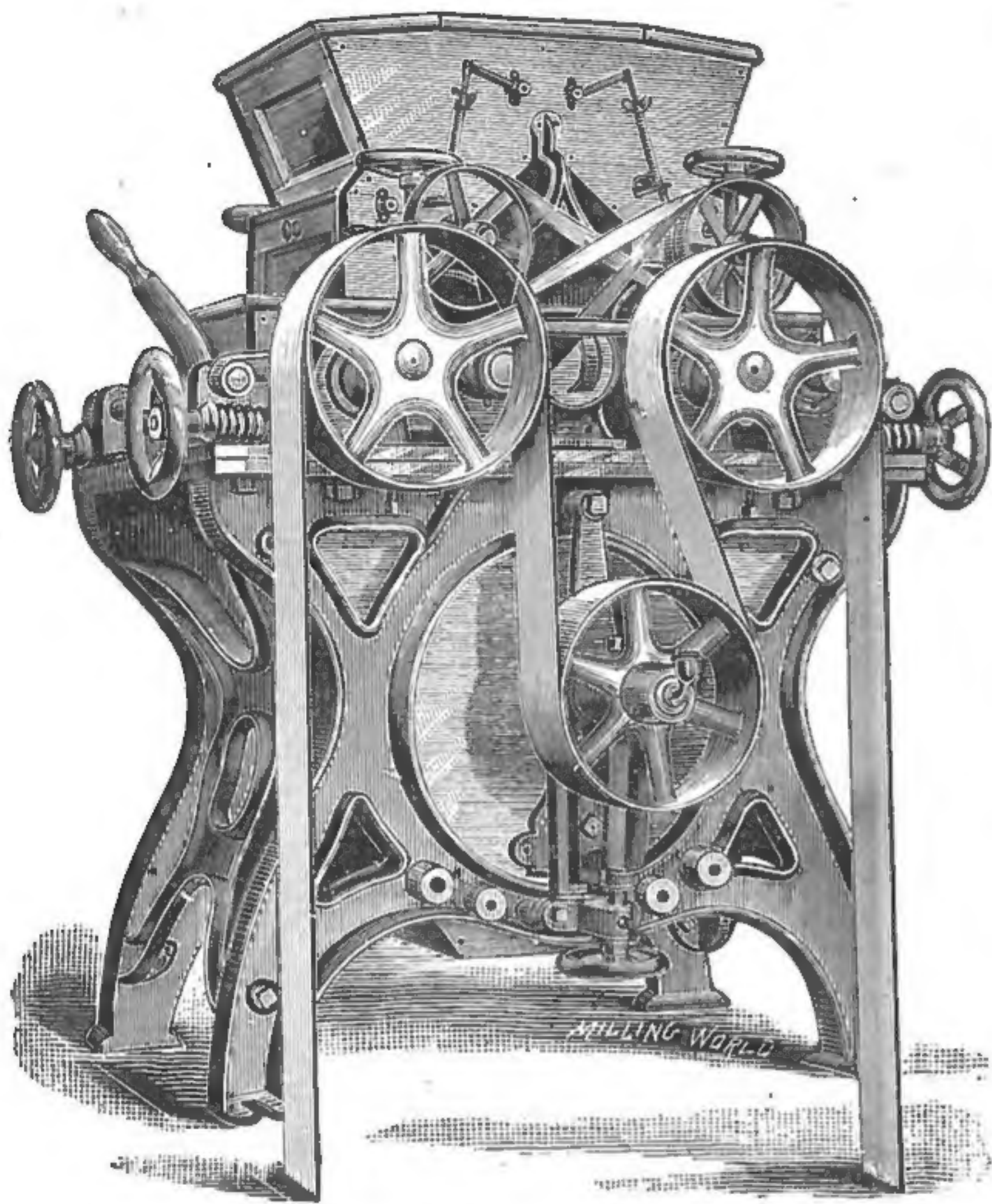
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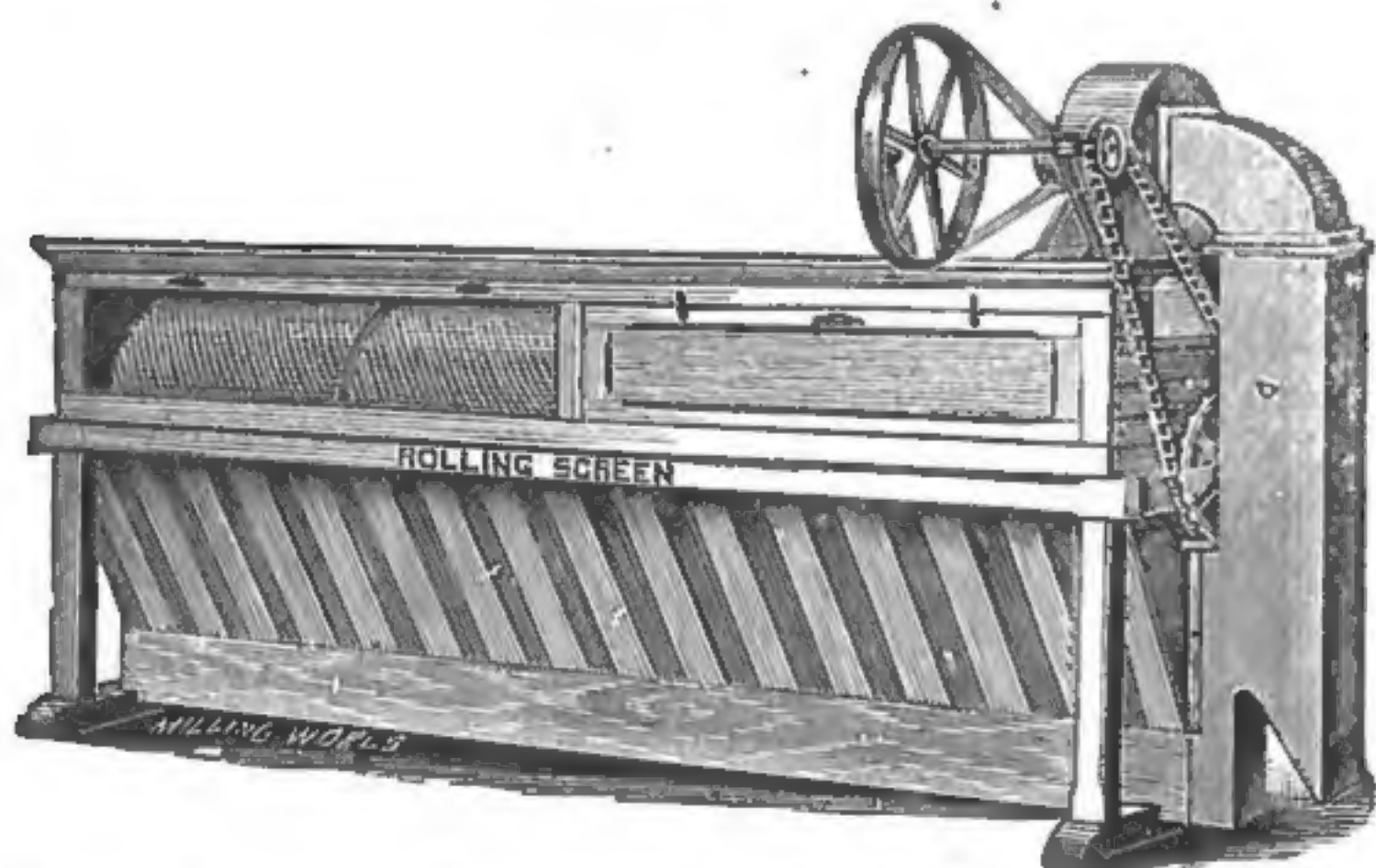
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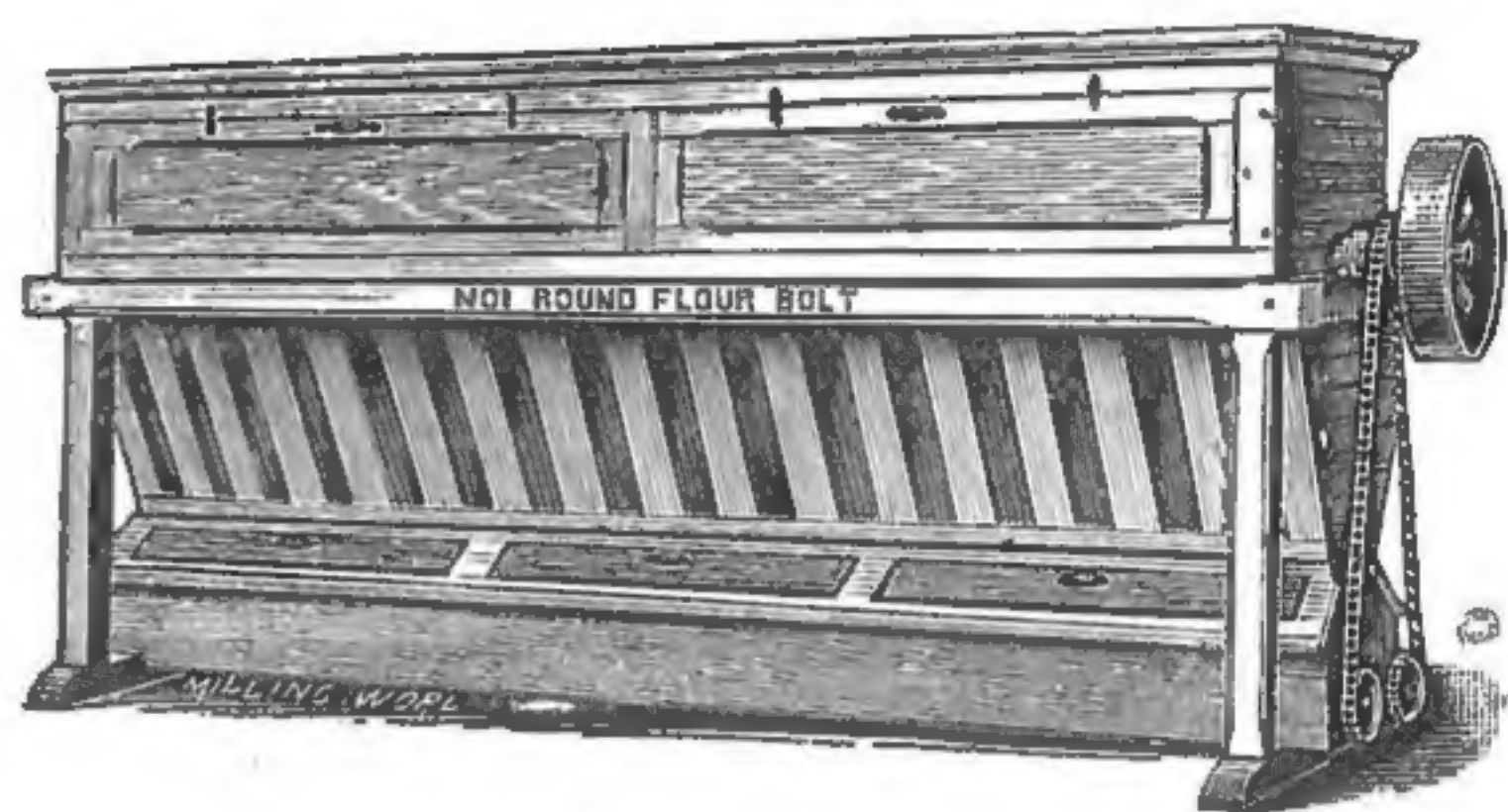
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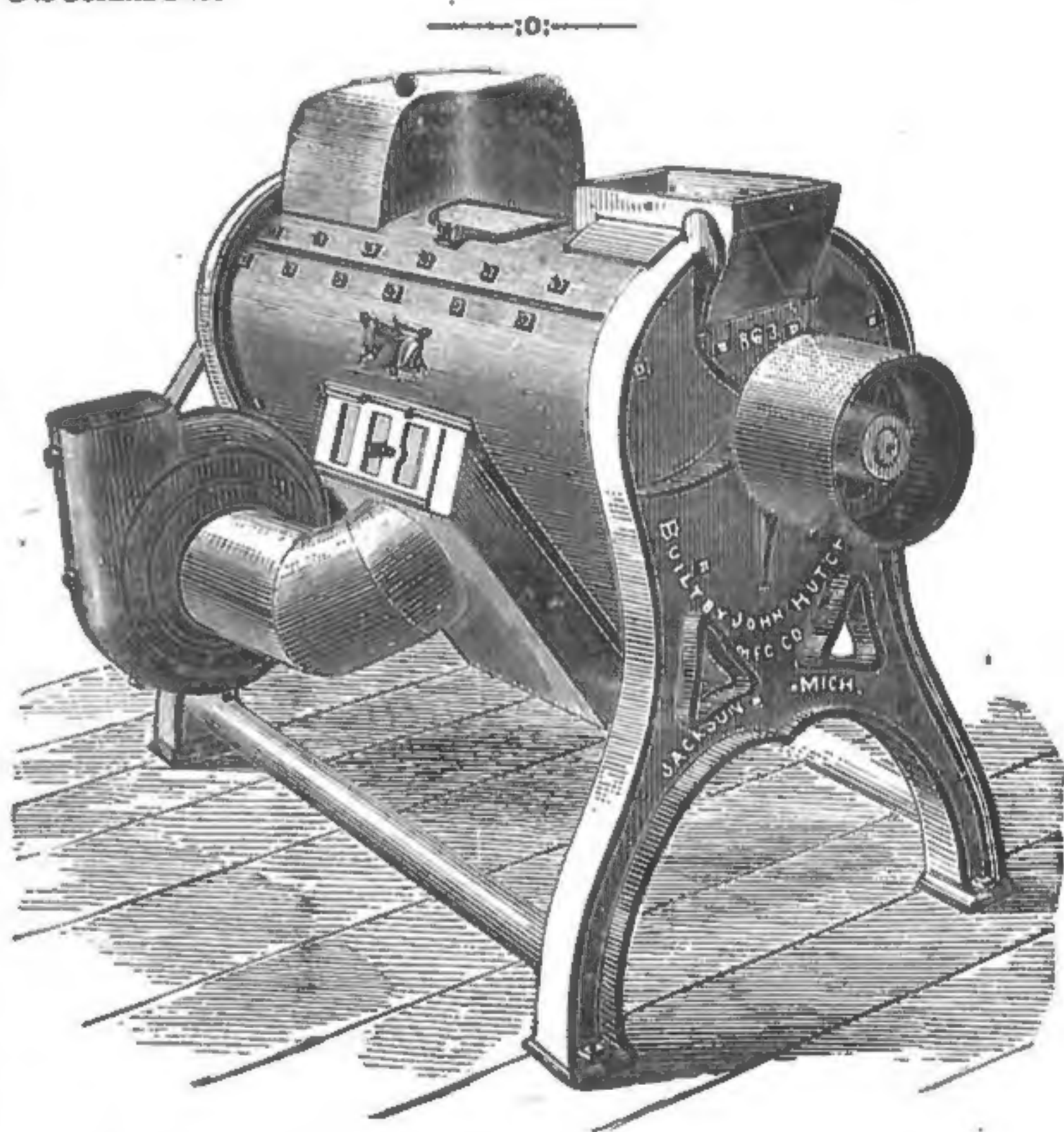


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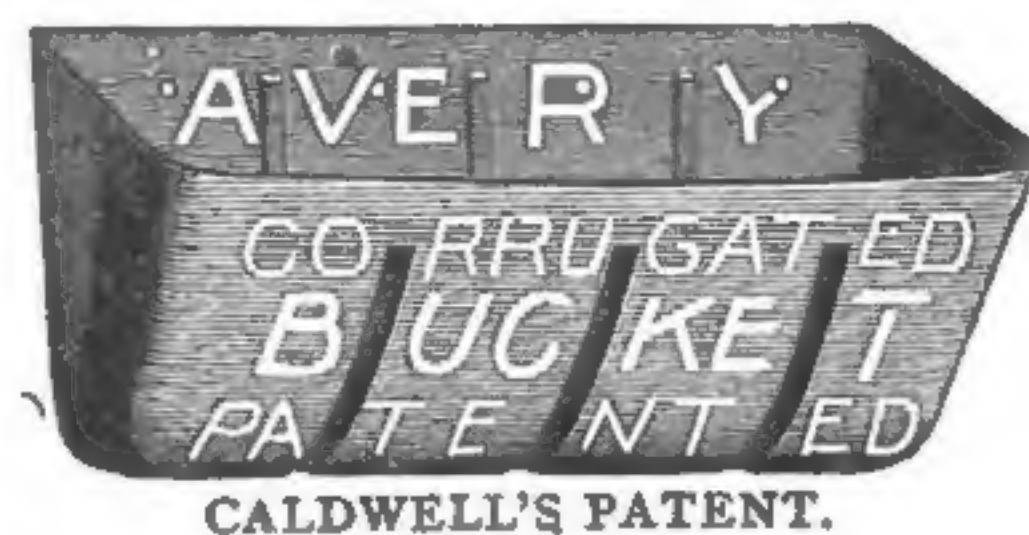
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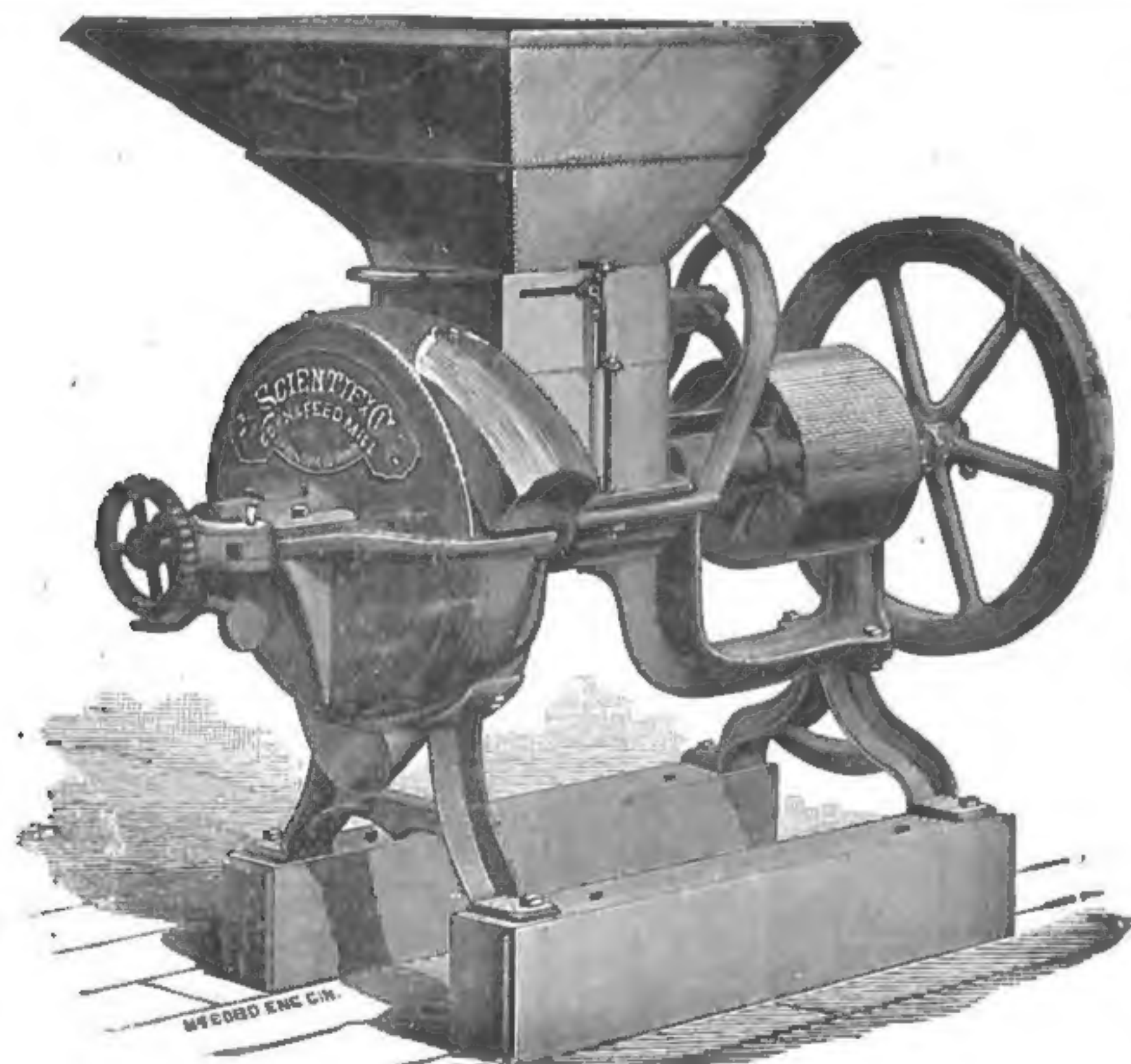
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